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OBSTETRIC PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

WHILE thanking the Medical Society of London for nominating me to deliver the second Lloyd Roberts Lecture under the conjoint scheme, I regret that I cannot claim the literary ability and charm which stamped the first lecture delivered by that distinguished man of letters, Mr. Edmund Gosse. Perhaps the Medical Society was influenced by the facts that I enjoyed Lloyd Roberts's intimate friendship during the last twenty-five years of his life, that we were fellow workers in the same field of medicine, and that the subjects, especially old books, which interested him have a similar interest for me.

A PORTRAIT OF THE FOUNDER.

I have thought that I could best commemorate the founder of these lectures by giving a few particulars of his personality, character, and habits from my own experience, and some particulars of the earliest books on midwifery in which he was especially interested and of which he bequeathed to the Royal College of Physicians such an unexampled collection. Those books, published in the vernacular, were widely used for study by midwives, and may be said to have started the renaissance of midwifery.

Of Lloyd Roberts's personal appearance I need say but little: his portrait, painted by Sir William Orpen, now in the Arts Gallery at Manchester, and a replica by the artist in the Royal College of Physicians, will be acknowledged by all to be an admirable picture, and by all who knew him to be an excellent likeness. I had the opportunity, just after it was painted, of comparing the portrait and the original side by side.

Lloyd Roberts was short in stature, of stocky build, and had the Celtic physiognomy and a Welsh accent much modified by his long residence in Lancashire. To the last he always addressed any man younger than himself as "lad." He was always neatly dressed, usually in a short black coat and dark trousers, and wore a silk hat tilted back on his head. He often wore a dark cape and a skull cap to protect him from the cold and draughts, of which he had an especial horror. Like his favourite author, Sir Thomas Browne, he thought it most important to keep warm. His clothes were made by the most renowned of tailors and, as he used to order a good supply in advance, he always appeared well dressed, even during the years of the war. In the hottest weather he would ride in a four-wheel cab with the windows closed. On his frequent visits to London he often used to engage the same old cab-driver, and keep him waiting during his visits, and from the smiles upon the cabman's face I have no doubt he received a generous fare. He was a very shrewd man and a great practitioner, with a most impressive and kindly manner which procured him a host of patients. In his earlier days it is said he was somewhat aggressive; but in his later life he became, as Horace says old men should, *mitior et melior*.

As an obstetrician and gynæcologist he practised nearly up to the day of his death over a period of more than 60 years, and his colleague, Dr. Archibald Donald, has pointed out the great amount of work he did at Manchester. He took up the operation of abdominal section early in his career. His first Cæsarean section, performed on June 3rd, 1867, figures as the first in the list of Dr. A. Routh's collection of cases of Cæsarean section by living British obstetricians which appeared in 1910. He published a work on the "Practice of Midwifery" in 1875, which reached a fourth edition in 1896 (an octavo volume of 558 pages). It was well written and well illustrated, and showed that the author kept himself abreast of the times. He read widely and was keenly interested in the work of younger men. At the same time he recognised that it was not everyone who was fitted to undertake some of the greater surgical procedures, such as the extended operations for cancer. He also did not practise the total operation in cases of myoma, although he recognised its superiority over the partial operation. In his work as an obstetrician and gynæcologist, which extended over such a long period of time, it cannot be said that he showed any great originality or made any noteworthy advance; but in the routine work of hospital practice he served for a period which is perhaps unequalled in the annals of gynæcology.

Although he was a connoisseur of good food and wine he was a small eater and a temperate drinker, and no doubt his good health and long life were in part due to his careful dieting: his lunch would have pleased Luigi Cornaro, for he told me it consisted for many years of a glass of milk. He had a cellar well stocked with wines of choice vintages, and was never happier than when dispensing them to his friends. When travelling he used to take his own wine with him, and would carry bottles wrapped in paper under his arm to the table at the hotel where he was dining. In a large public dining-hall his short figure in evening dress, wearing a black skull-cap and carrying two large bottles under his arms, would attract some attention, especially from the waiters; he always rewarded each of those who served him at the end of the meal. At the dinners to a small party of his friends he never gave any but the choicest wines, liqueurs, and cigars supplied from his own stock. Of pictures, prints, glass, china, and jewels (especially diamonds, which he had bought for his wife) he had a very valuable collection, acquired under the guidance of skilled experts, and by degrees he became an expert himself. In collecting old books he employed the most celebrated of the old-book sellers, and, as he had more regard to the condition and rarity of the book than to the price, he was able to accumulate a very valuable library, especially of old medical books, which to the number of 1800 (including 50 incunabula) he bequeathed to the Royal College of Physicians of London. This is said by the Harveian librarian, Dr. Arnold Chaplin, to be the greatest gift of medical books to the College since the Marquis of Dorchester's in 1680.

As regards medical practice and practitioners he was *laudator temporis acti* and spoke with great appreciation of the capabilities of some of the physicians whom he had known in his early days. He was lenient towards the foibles of some of his contemporaries, appreciated the work of younger colleagues, and was quick to take up a new idea. He always carried a note-book with him, in which he used to set down in his large scrawling script an idea or note of an old book or an edition which he did not possess, and to make sure there was no mistake he often got his informant to write the note.

In religious matters I think he was of the opinion of the philosopher who said that all men of sense were of the same religion, and when asked what that was replied: "No man of sense tells." He had many friends amongst church dignitaries and dedicated his 1898 edition of Browne's "Religio Medici" [1] to his friend the Marquess of Normanby, Canon of St. George's Chapel, Windsor. In his frequent week-end visits to London he usually attended the Sunday service at St. Paul's Cathedral or Westminster Abbey and sometimes the service at a Roman Catholic chapel. He had a great admiration for the English cathedrals, and, in spite of some apocryphal stories, I think he was a

[1] Lloyd Roberts possessed 21 editions of the "Religio Medici"; these are now in the Rylands Library, Manchester.

reverent man. He could hardly be otherwise than reverent who loved Sir Thomas Browne above all writers, who edited a charming edition of the "Religio Medici," who learned Italian in his old age that he might read Dante (on whose scientific work he wrote a book), and whose collections showed that he was a lover of the good and beautiful in men, ideas, and things.

These brief particulars about my departed friend's personality I have thought it well to set down, mindful of the exhortation to commemorate our benefactors left us by Harvey, about whose personal characteristics we all regret that more particulars have not been transmitted to us by his contemporaries. It is for his medical library that he will be longest remembered, and especially for his unequalled collection of early medical books, including the "Byrth of Mankynde" (1540).

EARLY BOOKS ON MIDWIFERY.

It is the purpose of this lecture to give some particulars of the first books on midwifery in Germany, France, Italy, and England, which may be said to have started the Renaissance of Midwifery.

Obstetrics is an ancient art. It was outside the Garden of Eden that midwifery was born, "of man's first disobedience" with the dread decree to woman, "in sorrow thou shalt bring forth children." And we find the Garden of Eden incident referred to and depicted in some of the first books of midwifery (Fig. 1).

The early history of midwifery is too extensive to be treated here; but it may be stated that the most distinguished of the ancient writers on obstetrics was Soranus of Ephesus, who lived in Rome at the beginning of the second century of the Christian era under Trajan and Hadrian. He wrote *περὶ γυναικείων παθῶν*, which stands out as one of the most important works in the history of midwifery, which had at that time reached a high state of development.

Subsequently the art of midwifery made no advance at the hands of the Byzantines and actually declined amongst the Arabians, who devoted more attention to the destructive operations on the child than to conservative treatment of the mother. One factor in preventing advance in the science of obstetrics amongst the Arabians was the prohibition of anatomical research in the koran. But the chief reason why no advance was made was that the practice of midwifery was in the hands of midwives, as it had been since the earliest times.

The history of midwives is an interesting study in itself, too extensive to be treated here. Their virtues have been immortalised in the bible in the persons of Shiphrah and Puah, who refused to obey the command of Pharaoh to kill the male children of the Hebrew women. What a loss to the world it would have been if little Moses had been murdered by the midwives or had been allowed to perish in his ark of bullrushes amongst the flags! In Rome monuments still exist which were erected in honour of midwives in the days of the Empire, and though some of the midwives, like Terence's Lesbia and Mrs. Gamp, were inclined to have a liking for the bottle, as is suggested too in some of the oldest illustrations of the lying-in chamber, in the main they were an honoured class. Let us not forget that Socrates was the son of a midwife Phainarete, "a very noble and worthy midwife," to whom he owed the "ars obstetricia Socratis," painfully drawing forth ideas from his pupils as his mother had brought forth children from the womb.

Yet up to the time of the Renaissance no midwife had written a work which developed the science or advanced the art or dignity of her calling. For the well-known "Trotula" written in the thirteenth century is no exception. About the personality and even the existence of any such person as Trotula there is considerable doubt. In Spach's "Gynæcia" (1597) the work is said to be by "Eros quem aliqui Trotulam inepte nominant, medicus libertus Juliæ." In the same (as in the earlier 1566) edition of the Gynæcia, the masculine adjective *compulsus* employed in the preface shows, unless the MS. was erroneous or miscopied, that the author was a man. It was probably written by a Salernitan male physician. The work is noteworthy for describing (as Soranus was the first to do) the support of the perineum and the repair of complete tear of the perineum, which appears in "Trotula" for the first time in the history of midwifery.

There is in the British Museum (Sloane 2463) a Trotula MS. of the fourteenth century (for the typed transcript of which I am indebted to my friend Dr. Charles Singer) in which the operation is described: "Other whiles sume women have so gret greva(n)ce in beryng of a childe that þe skynne þat is between the two prevy membres brekith a two and all is a hole." After applying butter and wine and replacing the womb which is to be made *nesshe* with wine "a good whiles" you are to "sowe to geder þat pece that is broken with a silken threde with a quarell-nedell [2] in thre places or in foure and sithen do pitche on a softe lynnen cloth and leye it to þe prevy membre."... "and let her liggen as I sayd rather a sevyne dayes or a nyne and let her eten and drynken in þat while but litell and keep hem well from cold and fro metes and drynkes that myght maken her eny coughe. And for to kepe women from this myschef in þat time that they traveyllen of child let make a rounde thyng of þe shappe of an eye of small lynnen clothe and pitch it on her fundeme(n)t and everich tyme of chylde and ev(er)yche tyme let thrust þat balle in her fundement and þ(at) shal saven þe skyn hole from brekyng."

The expression "thrust that balle in her fundement" does not give the true sense of the original. In Spach's Gynæcia, 1597, the description is: "Præparetur pannus in modum pilæ oblongatæ, et ponatur in ano, ad hoc ut in quolibet conatu ejiciendi puerum, illud firmiter ano imprimatur ne fiat hujusmodi continuitatis solutio." It is clear, therefore, that Trotula, following Soranus, recommended the pressure of the pad *against* and not *in* the anus.

Until the invention of printing the wisdom of the ancients was inscribed in such manuscripts comparatively few in number, usually written in the classical language and therefore readable only by the learned. For the preservation of these works we are indebted in great part to the various religious bodies and especially to the monks. The Church of Rome, which has at times opposed the pursuit of medical knowledge, has also been one of its greatest promoters. Many examples of this are given in Curatulo's "L'Arte di Juno Lucina in Roma." And there are not a few instances of ecclesiastical dignitaries who have been practitioners of medicine. Pope John XXI., the only member of the profession to occupy the papal chair, was a doctor who taught medicine in Siena in the middle of the thirteenth century. As Petrus Hispanus he published his work "Thesaurus Pauperum," which was printed for the first time in 1476; in the Lloyd Roberts Collection at the Royal College of Physicians are three copies of the work, including one of the 1494 edition.

Nicholas de Fernham, an Englishman, was professor of medicine at Bologna, whence he returned to England in 1241 and became bishop of Durham. In a fourteenth century MS.[3] we read:

"This medecyne (elecampane) taught þe Pryor of Bermondsey to a woman þ(at) was nygh dede on the fluxe of hy(re)marice. And to Amende hyrre stomak he lete take two handfuls of þe medell rynde of þe brome & lete sethe hyt in thre potell of clere water to a potell clense hit & putt þer to half a pint of whyt suger and lete sethe eftsones [4] & gef hyr to drynke."

The Church of England, like the Church of Rome, has had its medical chief. In view of the former practice of the Archbishop of Canterbury of licensing doctors and midwives, it is interesting to note that the only Primate who belonged to the medical profession was Archbishop Secker (*ob.* 1768).

[2] A four-sided or glover's needle.

[3] British Museum, Sloane 2463, Dr. Singer's Transcript, p. 21.

[4] Soon after, quickly.

The Renaissance of midwifery occurred somewhat later than that of other branches of learning. The intellectual world was in labour, in the throes of delivery from the domination of the Church, from the blind acceptance of the authority of the ancient writers Aristotle and Galen, and from the restrictions of the classical languages. The Reformation had brought about the first stage: Paracelsus did something to bring about the second stage when he cast the works of Galen into a bonfire in the streets of Berne and anathematised his opponents with the words "sic vos ardebitis in Gehenna." And Eucharius Rösslin seized the opportunity afforded by the discovery of printing to publish his "Rosengarten" in German, so that it could be understood by the people and particularly by the midwives for whom it was written.

Although Ortolff von Bayerland had published, about the year 1495, at Ulm a German work showing "how women should conduct themselves before, during, and after childbirth," it did not contain much detailed account of obstetrics. To Eucharius Rösslin is due the honour of the first printed work specially written for midwives.

FIG. 1.—Title-page of the 1642 edition of "La Commare," showing the Lord God addressing Adam and Eve in the Garden of Eden. From a copy in the author's library.

RÖSSLIN'S "ROSENGARTEN" (A.D. 1513).

Eucharius Rösslin (Röslin or Rhodion[5]) was a physician at Worms and afterwards at Frankfort on the Main. According to documents still existing at Freiburg in Breisgau, Rösslin was an apothecary there in 1493 and 1498. In 1502 he was received into the Citizen's Union or Guild (Bürgerverband) and was a householder in 1526. In 1504 a legal action was brought against him for "misshandlung," as the result of which a verdict was given against him and he was compelled to pay all costs and a fine of 3½ pounds of pfennigs. An autograph letter from Rösslin referring to this action has been published by K. Baas and reproduced by G. Klein in the notes to his reprint of the "Rosengarten" (1910). In 1506 he was elected physician to the city of Frankfort for a period of six years at a yearly stipend of 60 florins; and in 1508 he entered the service of the Duchess of Brunswick and Lüneberg to whom he dedicated his "Rosengarten." Before the expiry of his term of office he left (in 1511) the service of Frankfort and became city physician to the town of Worms, returning again to his Frankfort post at an increased salary of 70 florins. According to Baas, he died in September, 1526.

v. Siebold in his Geschichte der Geburtshülfe (1845) makes a curious error in giving the date of his death as 1553 or 1554, confusing this Eucharius Rösslin with his son who bore the same name and died in 1553 or 1554. The error is the more remarkable because in the Latin translation of the "Rosengarten," entitled "De partu hominis," there is a preface dated 1532, written by Christian Egenolph and addressed to Eucharius Rhodion which refers to the death of the father "cui bene sit in Domino, cujus in hac urbe tu et nomen refers et functionem." to this work Rösslin acknowledges his indebtedness In the ancient writers Hippocrates, Galen, Rhases, Averroes, Avicenna, and Albertus magnus; but the most important parts are taken from Soranus, probably from a manuscript by Moschion (or Mustio), which itself was copied from Soranus "word for word."[6] For the discovery of the first manuscript of Moschion we are indebted to the learned writer on medicine and natural history, Conrad Gesner. It is suggested by Gustav Klein that Rösslin used the Codex Palatinus Latinus which was at that time in Heidelberg, not far from Freiburg, Worms, and Frankfort, where Rösslin lived.

Some of these manuscripts, dating from the ninth to the fifteenth century, were illustrated, amongst the most interesting being the plates of the fœtus in utero which, reproduced in the English translation, "The Byrth of Mankynde" (1540), were amongst the earliest copperplates published in this country. The figures have been often reproduced. Dr. Klein has published a photographic reproduction of them from the Munich Codex Latinus of the thirteenth or fourteenth century. One plate, not met with in the earliest MSS., shows twins grasping each other by the heel: this was probably drawn by a monk in reference to the birth of Jacob and Esau.

Rösslin also published some admirable original plates — viz., the dedication plate, depicting the author presenting his work to the Duchess of Brunswick and Lüneberg, a plate showing the midwife examining a parturient woman (Fig. 3) and a figure of the birth-chair. It is stated by G. Klein that about 100 editions of "Rosengarten" are known, three editions being published in 1513 (Figs. 2 and 3). He gives a reproduction of the title-page of the 1513 edition printed by Gran at Hagenau, which shows a mother with her naked boy and a midwife holding a babe wrapped in swaddling clothes. The title-page of the 1524 edition is also given by G. Klein (Fig. 4). It is a fine representation of the lying-in chamber showing the midwife bathing the baby. In this plate the midwife sits with her bare legs in the tub, no doubt to make sure that the water was of a proper temperature, a useful practice adopted also by the Japanese midwives (Fig. 5).

[5] The name Rösslin was latinised into Rhodion in the Latin translation issued by Eucharius Rösslin the younger in 1532.

[6] As stated in the Codex Hafniensis: Ingerslev, Jour. of Obs. and Gyn. of Brit. Empire, 1909.

Under the title "De partu hominis," Rösslin's son published a Latin translation, of which, according to Klein, 11 or 12 editions appeared, the first in 1532. The title-page of my copy of the 1554 edition of "De partu hominis" gives the representation of the lying-in chamber reversed from that in the "Rosengarten" 1524 edition, and some quaint woodcuts, depicting the feeding and rearing of the child. The "Rosengarten" was translated into English by Jonas under the title "The Byrth of Mankynde," and published for the first time in 1540. A second amended English translation was made by T. Raynalde, who used the Latin edition of E. Rhodion, the younger. The late Dr. J. W. Ballantyne wrote a very full account of the English work, giving illustrations from many of the editions. He had not had an opportunity of inspecting the first edition, which is very rare, the only three copies he had been able to find in existence being in the libraries of Prof. Klein, of Munich, and the British Museum. The Royal College of Physicians now possesses 15 copies (11 editions) of "The Byrth of Mankynde," of which 11 copies, including two of the rare first edition, came from the Lloyd Roberts Collection. The celebrated plates of the position of the fœtus appear in this edition and not "for the first time in the 1560 edition," as once stated by Dr. Ballantyne.

The "Rosengarten" contained little that was original; but it had the merit of being written in the vernacular in which it could be read by midwives, in whose hands the practice of midwifery almost entirely lay; it was the first work dealing with obstetrics apart from medicine and surgery and in its illustrations it gave for the first time printed figures of the birth-chair, the lying-in chamber, the position of the fœtus in utero, and of the feeding and rearing of the child. Some of the plates are of high artistic merit and were copied by subsequent writers, including Rueff and Ambroise Paré.

FIG. 2.—Title-page of one of the 1513 editions of the "Rosengarten." From a copy in the library of the Royal Society of Medicine.

AMBROISE PARÉ'S "LA MANIERE DE EXTRAIRE LES ENFANS" (A.D. 1551[7]), "DE LA GENERATION DE L'HOMME" (A.D. 1573).

The first of the obstetric treatises by Ambroise Paré entitled "La maniere de extraire les Enfans tant mors que vivans hors le ventre de la mère, lors que nature de soy ne peult venir a son effect" appeared at the end of the "Briesve collection anatomique," published in 1551. The second treatise, "De la Generation de l'Homme receuilli des anciens et modernes" was published as an octavo volume in 1573 under the title "Deux livres de chirurgie" and was reproduced in 1575 in the first edition of the complete works of Paré. In his "Maniere de extraire les Enfans" Paré revived the operation of podalic version which had been entirely neglected for many centuries. The operation had been practised in the time of Celsus, Soranus, and Philumenos, but had found no place in the treatises of the Arabian physicians. Paré himself does not claim originality; but acknowledges that he had seen podalic version practised by Thierry de Hery and Nicole Lambert, "master barbers and surgeons in this town of Paris."

Paré's description of the operation is as follows:—

"And supposing that the child presents naturally having the head towards the outlet (au coronement), to duly deliver it by art you must gently push it back in the contrary direction and seek the feet and draw them into the outlet. By doing thus you will easily turn the child. And then when you have drawn the feet into the outlet you must draw one outside and tie it above the heel in the manner of a running noose with a moderately long fillet like that with which women bind their hair. Then you will replace the said foot into the said womb and having found the (foot) you will draw it outside and then will pull on the fillet to which the other foot is attached. And when you have thus drawn the feet outside the womb you will draw on both, equally on one side as on the other, little by little, and without violence if you possibly can."

He also advises that the abdomen should be moderately bound and pressed above the umbilicus and the mother should be commanded to hold her breath at intervals by closing her nose and mouth, and that she should bear down as much as possible. Sternutatories may be given to aid in the expulsion of the child. He warns against pulling on the arm in case of presentation of the shoulder, for which he recommended, in certain neglected cases, amputation of the limb followed by podalic version. Paré's re-introduction of podalic version after many centuries of neglect marks him as the master-writer of the Obstetric Renaissance. His work was plagiarised by Franco[8] in 1561, and attempts have been made in modern times to deprive Paré of credit by quoting from certain editions of his work.

Paré's works passed through many editions, and it was his practice to make alterations when additions to his knowledge called for them. Of his views on the separation of the bones of the pelvis in the act of childbirth, which have been criticised, he writes, "mais véritablement les os de hanches et pubis s'ouvrent et separent les uns des autres."

"I had hitherto maintained," he continues, "by word and writing that the os pubis could not separate and partly open in the act of childbirth; however, the contrary appeared to me on the first day of February 1579 by the anatomy of a woman who had been hanged fifteen days after being delivered, of whom I saw the dissection and found the os pubis separated in its middle about half a finger's breadth in the presence of Master Claude Rebours and other sworn surgeons at Paris. Also we saw the os ischion separated from the os sacrum. If anyone is not willing to believe it I will refer him to the book of Nature which does things which our intelligence is not capable of understanding."

Paré repeats the Hippocratic opinion that in the

[7] Malgaigne: "Œuvres complètes d'Ambroise Paré," 1840. Eloy gives the date of publication as 1549; Fasbender 1550; the "Privilegium" is dated July 6th, 1549.

[8] Traité des hernies, Lyon, 1561.

case of children born at the eighth month "their life is brief or null." He recommends late ligature of the cord if the child is feeble. The cord should be tied at a distance of three fingers' breadths from the umbilicus, and after the first knot is tied the ends of the ligature should be returned and two knots made on the side opposite to the first knot and tied more tightly than the first. And then "it only remains to leave the child to God and the women."

The work on the "Generation of Man" contains the anatomical and other figures, including the birth-chair, copied from Rösslin and Rueff. Paré published a figure of lead caps for ulcerated nipples which are still employed at the present day. I have in my library a work by T. Dunus,[9] with an autograph inscription by the author to Conrad Gesner, which recommends the application of wax cups or thimbles containing a few drops of pine resin to the nipples, to be worn during the last three months of pregnancy as a certain means of preventing cracks. To the criticism that some women or their husbands might object to the smell of the resin, Dunus replies that anyone who had suffered from the *magnum malum*, cracked nipples, would tolerate the smearing not only of the nipples but of the whole breasts with medicines however odoriferous. These are examples of which there are many showing that prematernity care is not a modern invention but was practised by the Renaissance writers and also by Ortolf von Bayerland, who gives details of measures to be taken "vor der Geburt."

Rosegarten
Das vierd Capitel sagt wie
sich ein yede fraw in vor vnd nach der gebur halte soll
vnd wie man ir in harter gebürt zů hilff kommen soll.

FIG. 3.—Showing midwife examining patient seated in the birth chair. From the copy of the 1513 edition of the "Rosengarten" in the library of the Royal Society of Medicine.

The movements of the child felt on palpation were first described by Paré. He denied the existence of the hymen except as a rare occurrence. He published a number of figures of instruments for the delivery of the dead child and gave an illustration of the speculum matricis, an ancient instrument known to the Romans, also of instruments for the fumigation of the uterus. Of Cæsarean section on the living he had seen disastrous results at the hands of Guillemeau which caused him to write, "Je ne conseillerai jamais de faire tel œuvre ou il y a si grand peril sans nul espoir." It was in reply to this statement that his friend Rousset wrote the first work on Cæsarean section, "Hysterotomotokie" (1581).

The literature of the life and works of Paré is very extensive. As was the case with the founder of this lecture, there seems to be a doubt about the actual date of Paré's birth, the years 1509, 1510, 1514, 1516, 1517, 1528 having been given by various authors. Malgaigne [10] states, on the authority of Bégin, that "A. Paré was actually born in 1517." He would thus be 73 and not 80, as usually stated, at the date of his death.

On St. Bartholomew's Day, 1572, "it was not reasonable that he should be massacred," King Charles IX. exclaimed after taking a shot with his arquebus at his less distinguished subjects, "il pouvait servir à tout un petit monde." This service Paré, the Reformer of Surgery, the Reformer of Midwifery, continued to render up to the time of his death in 1590—and "his soul is marching on."

SCIPIONE MERCURIO'S "LA COMARE" (A.D. 1596).

The first of the Italian writers for midwives was Scipione Mercurio, who published his work entitled "La Comare o Riccoglitrice" in 1596.

Scipione Mercurio was born in Rome about the year 1540 and studied medicine at Bologna and Padua, but soon devoted himself to theological studies and entered the Dominican monastery at Milan, where he took the name of Hieronymus. He still continued to occupy himself with the study of medicine, and finding his monastic life did not afford him sufficient opportunities for the practice of medicine he quitted the monastery and travelled in France and Spain in the years 1571 and 1572 as physician to a German officer, Hieronymus de Ladrone. On completing this journey he returned to Italy and practised with great success in Padua and Milan. He had studied in Bologna under the celebrated Arantius, of whom he speaks in the highest terms as "the most learned anatomist of his time and my very kind preceptor." He mentions a case in which he saw Arantius, in the year 1578, deliver a living child by Cæsarean section from a woman who had been killed in the ninth month of pregnancy. He states that Arantius had familiarised himself with the anatomical conditions of pregnancy by performing many dissections of gravid women. He had also seen Arantius demonstrate the hymen, the existence of which, except as a rarity, had been denied by Paré.

Scipione Mercurio states that in Toulouse he had seen two women who had been safely delivered by Cæsarean section which at that time (1571) was "as well known in France as bleeding for headache in Italy." He may be said to have introduced the operation of Cæsarean section on the living woman into Italy and published the first printed illustration of the operation.

Scipione Mercurio led a stormy and adventurous life; at one time travelling with a German officer, Ladrone, in France and Spain, at another pursuing his theological studies, then abandoning these for the practice of medicine, and again resuming them; finally settling in Venice where he lived for 15 years. He died about the year 1615 or 1616, according to Ghilini in Venice, according to Renazzi in Rome in the ancient Dominican convent of Santa Maria. His other writings show his great interest in medicine, and he seems to have specialised in the practice of obstetrics. He had little faith in medical writers who lacked practical experience. Of Sansovino's "L'Edificio del corpo umano," he writes that the author was neither

[9] Thaddeus Dunus: "Muliebrium morborum remedia," 1565.

[10] Malgaigne: Loc. cit.

a physician nor a surgeon, and "what," he asks, "could he say of value about a profession which he did not know or practice?" Of Jacob Rueff, whose belief in astrology he condemns, he complains that he was a "mere surgeon," and relied for many of his statements on the authority of others. Mercurio's object was to write a work for the midwife in a language which she could read. "Some Roman Aristarchus" might object that he had not written it in pure Tuscan. "No," replied he, "I have written it in the Roman dialect because I am a Roman." Those who affected the Tuscan style he referred to Boccaccio and Bembo. If they did not like his work, let them do him the great favour of not reading it. Perhaps the less it pleased his critics the more it would please others. He acknowledged that he had profited by the works of others—he gives a list of 80 authors whom he had consulted—and says he could never pardon Aristotle for adopting the statements of Hippocrates without once mentioning his name. Any errors in the work he prays The Lord will enable him to see and amend and begs his critics not to censure that which is written for a good purpose.

Mercurio's writings show that he was a man of wide erudition which he was wont to bring to bear upon his

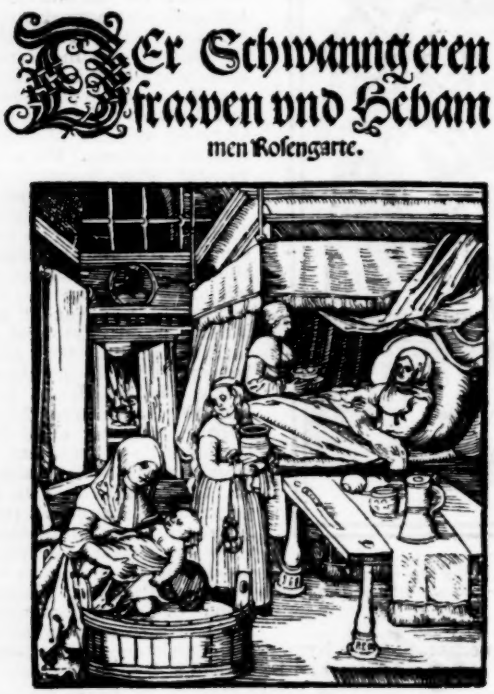

FIG. 4.—Title-page of the 1524 edition of the "Rosengarten." From G. Klein's reprint of the 1513 edition, showing the midwife bathing the infant while sitting with her bare legs in the bath.

critics in pointed shafts of wit and learning. His evident fondness for polemics explains the chequered character of his career. Yet withal Mercurio has a charitable spirit and a kind heart, as is shown in many places in "La Comare," and especially in a chapter on the suckling and home-nursing of children by their mothers. An eloquent passage on the joy of a father in greeting his children after his day's work is over leads one, in the words of Curatulo, "to make strange conjectures about this Dominican friar, whose life would furnish the material for a most interesting psychological romance."

"La Comare" is the first work in which contraction of the pelvis is mentioned as an indication for Cæsarean section. It contains a description and illustration of the "hanging-legs" position for delivery in cases of contracted pelvis, which Walcher published in 1889 as something new, and of the position in which very fat women should be placed for delivery, a position which Osiander says even practised acrobats could hardly maintain for more than a quarter of an hour. There is also a description of the operation of bimanual version which is usually associated with the name of Braxton Hicks. Mercurio advised that the diet of pregnant women should be reduced one-third during the last three months.

FIG. 5.—White-line wood engraving by Horace Gerrard (from an antique Japanese ivory netsuke in the author's possession) showing the midwife as in Fig. 4.

The work is divided into three books. The first book deals with natural labour and the care of the pregnant woman and of the new-born child by the midwife. The second book deals with præternatural labour—i.e., with the child's hands, feet, or side presenting—and shows how the midwife should deal with these "difficult and dangerous cases." The third book deals with the maladies which may occur to the lying-in woman and new-born child, and teaches the midwife how to treat these maladies in case the patients do not wish, or are ashamed to call in a doctor.

Von Siebold in his "Geschichte der Geburtshülfe" (1845) says "La Comare" was first published at the beginning of the seventeenth century—Haller gives the date of the first edition (which he had not seen) as 1604. Quetif and Eckard, the biographers of Mercurio, speak of an edition which appeared before 1600, but leave the matter doubtful.

The first edition actually was published in 1596, the second and third books being dated 1595. That "La Comare" is a *cinque cento* book was first made known by Davidson,[11] of Breslau, in 1864. A few years ago I was fortunate enough to obtain a copy of this edition, which is very rare, only three other copies being known to exist. Fasbender says there were 17 editions of the work, and Curatulo[12] gives a short account of these 17 editions. I possess two editions (1680 and 1786) not mentioned by Curatulo, and these, with the 1713 edition in the Lloyd Roberts Collection of the Royal College of Physicians, bring the number of the editions of "La Comare" up to 20.

The first edition* "La Comare o Ricoglitrice," Venice, G. B. Ciotti, 1596 (second and third book dated 1595), 4°, is very rare. There is a copy in the Marcian Library at Venice, another in the Library of the Arcispedale in Florence, a third in the Alexandrine Library at Rome, and a fourth copy is in my possession. There are some good anatomical figures from copper plates by Franciscus Vallegius. The other figures are rough woodcuts. I have given a reproduction of the title-page and some other figures from this edition in the Harveian Oration (1921). The second edition,* "La Commare o Riccoglitrice," Venice, 1601, G. B. Ciotti, is also rare. The second book has no separate title-page. The third book is dated 1600. There is a remarkable title-page (Fig. 6) to this edition which is dedicated to Octavian Malipiero, the stemma of whose family is given below, and above is a portrait of Catherino Maripiero who fell while engaged in sinking the Turkish fleet at the battle of Lepanto (1571), in which Cervantes was wounded and lost the use of his left hand. At the sides of the title-page are figures of

[11] Monatschrift f. Geb. u. Frauenkr., Bd. xxiii., p. 345.
[12] Curatulo: Loc. cit.
* A copy is in my library.

Scipio Africanus (" belli gloria ") and Cato of Utica (" reipublicæ splendor "). The artist is not named, but a comparison with his other work shows that the plate was engraved by Vallegius.

The third edition appeared in 1606 (title-page as in second edition, dated G. B. Ciotti, 1601). In his dedication (of the first book) to Octavian Malipiero, the author signs himself Girolamo Mercurio Romano " from the convent of S. Eustorgius at Milan, 30th October, 1604," and states that this is the third edition, " ristampata la terza volta " (" reprinted for the third time "), which really means *printed* for the third time, for he adds that he dedicates it to Malipiero with the same affection as he did the second impression (la seconda impressione). The second book has Ciotti's " Minerva " printer's plate, and is dated 1606. The third book has similar title-page and date (1606) to the second. This edition is sometimes called the 1604 edition —e.g., by Curatulo,[13] and was thought by Haller to be the first edition. The title-page is that of the second edition, and, although the dedication is dated 1604, the dates on the title-pages of the second and third books show that it did not appear till 1606.

Subsequent editions according to Curatulo appeared in 1607, 1612, 1614, 1618,* 1620, 1621,* 1642,* 1645, 1652,* 1653, 1662, 1671, 1676, and 1703.* Of these editions those marked with an asterisk are in my library; the 1612 edition quoted from v. Siebold by Curatulo,[14] I have been unable to find in the reference given, and the 1614 edition, quoted from Haeser, is given by v. Siebold as *1613*.

I possess two other editions of which I have not found a record—viz., the 1680* edition, Venetia—Staffano Curti, and the 1686* edition, Venetia—G. F. Valvasense. [It is possible that the 1676 edition, quoted by Curatulo from Quetif and Eckard, also printed by Valvasense, has been mistaken for the 1686 edition.]

Lastly, the Royal College of Physicians has a copy of the 1713 edition, Venezia, Dominico Lovisa, in the Lloyd Roberts collection. The 1642* edition has a fine title-page of the Lord addressing Adam and Eve in the Garden of Eden (Fig. 1). Appendices on " Il Colostro " by di Castro and on Baptism by " Un gravissimo autore " are added to this and later editions. An additional appendix from Marinello's " Medicine partinenti al Infermità delle donne gravide " appears in the 1703 and 1713 editions.

FIG. 6.—Title-page of the second edition of "La Commare," formerly thought to be the first edition. This title-page, unaltered, was used for the third edition, and, with the date altered to 1621, for the 1620 and 1621 editions. The title-page of the first edition (1596) was reproduced in the Harveian Oration for 1921.

Besides " La Comare " Scipione Mercurio wrote "The Catholic Courtier" — "The French Disease" —" Comments on Tasso's Seven Days of the Creation of the World " — " The Clock of Health " —" On the First Part of the Aphorisms of Hippocrates " — " On the Popular Errors of Italy."

WILLIAM HARVEY'S " DE GENERATIONE ANIMALIUM " (A.D. 1651).

The Renaissance of Midwifery occurred later in England than in Germany, France, and Italy. It had made some progress as a result of the appearance of translations of the works of Rhodion and Paré; but no original book on the subject had been published until 1651, when Harvey published his " De Generatione Animalium " with the chapter " De Partu " which justifies Aveling's designation of Harvey as the Father of British Midwifery. I have elsewhere[15] given a detailed account of Harvey's contributions to embryology and midwifery and have pointed out the teachers at Padua who had specially written on those subjects. Spach's third edition of the Gynæcia, a collection of ancient and recent writers on gynæcology, had appeared in 1597, and the first edition of Scipione Mercurio's work, " La Comare," had been

[13] Loc. cit.
[14] Loc. cit.
* A copy is in my library.

[15] Harveian Oration, 1921: William Harvey, Obstetric Physician and Gynæcologist.

published in 1596, four years before Harvey went to Padua to study.[16] Scipione Mercurio had himself practised obstetrics at Padua and it was probably the great attention devoted there to obstetrics and the appearance of "La Comare," the second edition of which was being prepared when Harvey joined the University, which stimulated Harvey to emulate the Paduan obstetrician by writing his "De Partu," which was the first original English work on midwifery.

The "De Generatione Animalium"—for the publication of which we are indebted to Sir George Ent—consists of 72 "exercitations" followed by chapters on "labour," "the membranes and humours of the uterus," and "the conception." There is a printer's error in the numbering of the exercitations of the first (Latin) edition, printed in London, Exercitatio V. being printed Exercitatio IV., and the error is continued in the subsequent "exercitations," so that the last appears as Exercitatio LXXI., though it should be Exercitatio LXXII. This printer's error, which was corrected in the later editions, may have led to some mistakes in references to Harvey's work.

The first (Latin) edition, printed in London 1651, contains a striking title-page representing Job sitting on a throne and opening an egg from which various animals are escaping; on the egg is printed "ex ovo omnia," a pregnant generalisation which Harvey made as a result of his researches on generation. The legend is omitted from the egg in the first Amsterdam edition (Leers, 1651). The first English edition appeared in 1653 with a portrait by Faithorne, which is often missing. It is one of the best of the engraved portraits of Harvey."

Prefixed to the first English edition is a laudatory ode to "the incomparable Harvey," signed M. LL., M.D., which stands for Martin Llewellyn, M.D. The English edition is written in quaint and spirited language and was probably produced under the supervision and with the approval of Harvey, who lived for four years after its appearance. Dr. Robert Willis, in the preface to his translation of Harvey's works, says that the English translation of the 1653 edition was made by Martin Llewellyn, but does not give his reasons for the statement, which perhaps receives some support from the facts that Harvey handed over the Latin edition to Ent to see it through to the press, that Llewellyn certainly wrote the ode to Harvey, was, like him, a Royalist and obtained the M.D. Oxon, and was a candidate for the R.C.P. in the year (1653) in which the translation appeared.[18]

Harvey's friend and patient, Francis Bacon, published in 1605 his "Advancement of Learning" which contains his inductive method—the accumulation and systematic analysis of facts obtained by observation and experiment—which forms the basis of modern scientific work. Harvey alludes to Bacon as "our most learned Verulamius," and we require stronger authority than Aubrey's for the statement that Harvey spoke derisively of him. Indeed, the preface to the "Generation of Animals" in its arguments and often in its language recalls Bacon's "Advancement of Learning," in which the "diseases and errors of learning" are described. Harvey also appealed to observation and experiment. "We must not," says he, "rely upon other men's experience, but on our own." "Every perfect science builds upon these principles which it finds out by sense," but "we must have a special care that we be sure those principles are safely grounded." "For want of this," he says, "we have many sophisters and book-wrights, but few wise men and philosophers."

The great and original merit of Harvey's work on generation lies in the careful and methodical observation and record of the embryo and fœtus at all stages. Harvey did for development what the illustrious Paduan Professor Morgagni subsequently did for disease in his "De sedibus et causis morborum" (1761). The chapter on labour (De Partu) deals with the subject from a scientific and practical point of view. The scientific part consists in criticism of previous opinions in the anatomy and physiology of the fœtus and of parturition based on his own observations. The practical part gives evidence of extensive personal experience in midwifery and is in the main devoted to the recommendation of patient watchfulness and gentleness, imitating Nature in ordinary cases and podalic version in difficult ones.

England was not only the last of the great countries to produce a writer on midwifery, but was equally tardy in the recognition and regulation of its practitioners. In 1616, the year in which Harvey was propounding his immortal discovery of the circulation of the blood, Peter Chamberlen ii. made a petition to King James that some order might be settled by the State for the instruction and civil government of midwives; but nearly 300 years were to elapse before the desirable result was obtained, in the Midwives Act (19 2), through the persistent efforts of the Obstetrical Society of London. Harvey inveighs against the meddlesome officiousness of the midwives. Another distinguished obstetrician, his friend Percivall Willughby, writes more fully of their shortcomings and misdeeds, and testifies to the value of Harvey's teaching in the following words: "I know none but Harvey's directions and method, the which I wish all midwives to observe and follow and oft to read over and over again; and in so doing they will better observe, understand and remember the sayings and doings of that most worthy, good and learned doctor whose memory ought to be had for ever in great esteem with midwives and child-bearing women."

The first books of the Obstetric Renaissance in Germany, France, Italy and England achieved their object of being widely read by midwives, as we learn from the history of Louise Bourgeois and Justine Siegemundin. The book introduced them to the wisdom of the ancient writers, and in the cases of Paré and Mercurio to methods of treatment which had been long neglected and forgotten. England was fortunate in having as the father of English midwifery, Harvey, who introduced into that branch of medicine the wide view, the scientific spirit, and the conservative practice which have been its characteristics. It was Harvey's inculcation of patience and gentleness in imitation of Nature, adopted by Smellie and Hunter, which made such a strong impression on Boër, the founder of the great Viennese School of Midwifery, who, after studying in France and England, adopted the British practice "having learnt in France what Art, in England what Nature, could do."

The purely British operation of induction of premature labour for cases of contracted pelvis can be attributed to the same conservative spirit. And if we add the discovery of the fœtal circulation by Harvey, of the forceps by Chamberlen, of chloroform by Simpson, and of the antiseptic system by Lister, one may claim for British medicine that, though it was last in producing a writer on obstetrics, it has not been least in conferring benefits on parturient women.

[16] Sir Thomas Barlow: Harveian Oration, 1916, and footnote; H. R. Spencer: Harveian Oration, 1921.

[17] The latest portrait is a "white-line" wood engraving of the Canterbury portrait by Horace Gerrard; the first pull from this plate is in the Library of the Medical Society of London.

[18] He was made a Fellow of the College in 1659.

THE LATE DR. R. R. HARPER.—Robert Russell Harper, L.R.C.P. Lond., L.S.A., who died at his residence at Westgate-on-Sea, Kent, in his seventy-first year, was an old student of St. Thomas's Hospital Medical School and qualified in 1875. On qualifying he joined his father in practice at Holbeach, Lincolnshire, where he led an active professional life for many years. On the outbreak of the late war he offered his services to the War Office and was subsequently attached to the No. 1 Birmingham War Hospital, where he worked till ill-health compelled him to resign. After recuperating his health he was appointed resident medical officer of the Pensions Hospital, Birmingham, and on retiring from that position spent some time in travel in England and in 1920 settled down at Westgate-on-Sea. Early this year he underwent an operation from which he never really recovered, and he died peacefully in his sleep. He played Rugby in his early days for his school and was instrumental in organising the first Inter-Hospitals Cup Competition. Dr. Harper leaves a widow and two sons.

SPONTANEOUS SPLENIC RUPTURE IN MALARIAL TREATMENT.

BY G. DE M. RUDOLF, M.R.C.S. ENG., D.P.H.,
ASSISTANT MEDICAL OFFICER IN CHARGE OF LABORATORY, CLAYBURY MENTAL HOSPITAL: CLINICAL ASSISTANT, NEUROLOGICAL DEPARTMENT, KING'S COLLEGE HOSPITAL.

IN a recent number of THE LANCET [1] appears an annotation describing the occurrence of spontaneous rupture of the spleen in artificially induced malaria in a general paralytic. The case, which was recorded by Alexander in *Le Scalpel*,[2] underwent with apparent impunity eight rigors but then collapsed suddenly on his bed. He was found to be dead. At the autopsy it was found that the spleen, which was soft, had ruptured.

With the object of endeavouring to determine whether spontaneous rupture of the spleen would with any frequency be likely to occur in enfeebled general paralytics, or whether it will be sufficiently rare to remain merely a clinical curiosity in the history of malarial treatment, some observations, described in this paper, have been made. In naturally acquired malaria rupture of the spleen may be due to trauma, for instance, a blow or an exploratory puncture (Osler),[3] or it may be spontaneous. The organ is enlarged and, in acute cases, soft, and presumably spontaneous rupture is due to the organ having increased in size to such an extent that any extra strain causes the rupture to occur. This extra strain might be due to pressure upon one part of the structure causing an increased tension in the remainder, or possibly to the rhythmical contractions which occur about once a minute in the organ (Halliburton).[4] Now if the spleen of the general paralytic is large before the inoculation with malaria it would be expected that there would be an appreciable risk of rupture during the rigors when the spleen enlarges. If, in addition, the organ were soft the risk might be serious, for a soft organ would be more likely to rupture than would a firmer structure.

The Spleen in the General Paralytic.

In order, therefore, to endeavour to determine whether the spleen of a general paralytic is more likely to rupture during malarial rigors than is the spleen of a normal person, it is necessary to know whether the organ is enlarged and soft in the paralytic. The weight of the spleen in health is given as being from 142 to 198 g. by Sims Woodhead,[5] as being from 150 to 200 g. by Hewlett,[6] and as about 200 g. by Howden.[7] The weight of the spleen in general paralysis, however, tends to be below these figures, as is shown by the following table, constructed from the post-mortem accounts of 50 general paralytics who have died during the last two and a half years at Claybury Mental Hospital, both males and females being included.

Weight in grammes.	Number of organs.	Weight in grammes.	Number of organs.
75	1	140 to 159	9
80 to 99	13	160 to 179	4
100 to 119	11	210	1
120 to 139	11	—	—

The consistency of the spleen may be described as being harder than normal, normal, or softer than normal. The post-mortem records of the same series of spleens showed the following:—

Hard, 33. Normal, 9. Soft, 8.

Thus, as shown by this series, the spleen in general paralysis is usually harder than normal.

Now in 80 autopsies performed upon cases of chronic malaria, Kelsch and Kiener [8] found that the weight of the spleens varied from 400 to 1500 g., averaging 914 g. As these autopsies were on cases of chronic malaria the spleens would be fibrotic and firm. Therefore it is clear that a fibrotic spleen in a subject whose spleen would normally weigh from 140 to 200 g. is exceedingly unlikely to rupture, even although it increased in weight to well over 400 g. As the majority of the spleens in the 50 general paralytics examined were fibrotic and, in addition, weighed under 159 g., the probability of rupture must be even less than in normal individuals whose spleens weigh from 150 to 200 g. It is interesting to note that the large proportion of small fibroid spleens is in agreement with the fact that syphilis causes chronic inflammation of the organ (Bosanquet and Wilson).[9]

Risk of Rupture in the General Paralytic.

From the pathological evidence, therefore, it would appear that the occurrence of spontaneous rupture of the spleen in general paralytics treated with malaria must be even more infrequent than in non-paralytics suffering from malaria, in whom the accident is very rare (Osler).[3]

Although the pathological evidence points very strongly to the occurrence of spontaneous rupture of the spleen as being a very rare phenomenon in general paralytics, it is to the clinical evidence that we must turn for definite information as to whether the risk of rupture is very grave. On reference to the literature, no note as to the occurrence of splenic rupture has been found in the description of 84 cases of malarial treatment dealt with by Yorke and Macfie,[10] of 14 cases described by Worster-Drought and Beccle,[11] or the 12 cases observed by McAlister.[12] In addition, no instance of rupture has occurred in the 39 cases treated with malaria at Claybury Mental Hospital, although many of the patients were old, feeble, and bed-ridden. Although no definite statement can be made as to the frequency with which spontaneous splenic rupture is likely to occur in general paralytics treated with malaria until a far greater number of cases have been watched, it would appear from both the pathological and the clinical evidence that the condition must be exceedingly rare and the risk of rupture in any individual person negligible.

The above observations refer to spontaneous rupture only, not to injury caused by trauma. The frequency of occurrence of the latter would be determined by the restlessness of the patients, the skill of the nursing staff, and similar factors.

In conclusion, I wish to express my thanks to Dr. G. F. Barham, Medical Superintendent of Claybury Mental Hospital, for permission to publish the above facts from the records of the hospital.

Addendum.

Since the above was written the investigations carried out by Bigland, Watson, and Bigland [13] have been published. These observers found an increase of fibrous tissue in the spleens of all but nine of 399 subjects examined, thus giving a higher percentage (97·6 per cent.) than was obtained from the Claybury records (66 per cent.). In both series of figures male and female general paralytics are included.

In three subjects the condition of the spleen following malarial treatment has now been observed. In each instance the cessation of the malarial paroxysms had occurred more than three months before the death of the patient. Two of the organs weighed 200 g. each, the third 100 g. In each organ the splenic pulp was very soft and "mushy" with a purplish tint. In addition, in two of the three spleens a large amount of fibrous tissue was present, causing a very marked grating sensation on cutting into the organ. The structures therefore showed an unusual combination of excess of fibrous tissue with a very soft pulp. A soft "mushy" pulp is very rare in untreated general paralytics.

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(*Continued at foot of next page.*)

A CASE OF
CONGENITAL MALARIA OCCURRING IN ENGLAND.

BY J. LLEWELYN JONES, M.D., B.SC. LOND.;
AND
H. C. BROWN, C.I.E., M.B., B.CH. CAMB.,
MAJOR, I.M.S. (RET.),
WELLCOME BUREAU OF SCIENTIFIC RESEARCH.

As some divergence of opinion still exists on the possibility of direct transmission of malaria from the mother to the child, an account of a case which occurred in England may be of interest.

The literature on the subject of congenital malaria contains views and statements which are diametrically opposed. On the one hand we have the opinion of Rosamond[1] (1923) that hereditary transmission of malaria does not take place. Hitte[2] (1909) has described malaria parasites in the blood of the umbilical cord in two cases, but in the article on Malaria in Allbutt and Rolleston's "System of Medicine" Prof. W. S. Thayer pronounces the evidence unconvincing. Grabham[3] (1904) daily submitted to prolonged and repeated search the blood of infants born of malarious mothers, who at the time of birth were heavily infected with both malignant and quartan parasites, but failed to find them or any evidence of malaria, and he concludes that the cases mentioned by Dinstl* and others must have been bitten by mosquitoes after birth, although he states that hæmorrhages may possibly take place in the placenta and let loose a number of parasites into the fœtal circulation. Pennato[4] (1921) cites the case of a mother who died at childbirth from malaria whilst the fœtus was apparently free from the slightest indication of it, and concluded that the protecting action of the placenta evidently varies from case to case. This author quotes the observation of Ugo Soli, who reports the protection of the fœtus from acute mercury poisoning which was fatal to the mother. Pennato remarks that our knowledge of the functions of the placenta is not yet sufficient to warrant any dogmatic conclusions as to why malaria sometimes is and at other times is not transmitted to the offspring of infected mothers.

Previous Records.

We now come to a series of cases in which the probability of congenital malaria having occurred seems to have been established.

Forbes[5] (1923), in recording a case in which quartan malaria occurred in an infant in a district in which anopheles had never been found, draws attention to the rarity of intra-uterine infection with the malaria parasite, stating that up to 1910 Beekel found only 12 examples of undoubted placental transmission of malaria on record, and that since then 15 more conclusive cases have been published. He concludes that symptoms appeared at various stages, the longest postnatal interval being seven weeks. A new-born child may, therefore, have a relatively latent type of malaria, and it is probable that some at least of the cases of malaria in infancy, hitherto attributed to postnatal infection, were in reality acquired in utero or at birth. Weston[6] (1922) states that he has seen malaria in an infant five days old, and Cuadra[7] (1920) records a case in which the mother had a malarial history with typical chill and fever two days after the child was born, the child's temperature rose at the same time to 104° F., and *Plasmodium vivax* was cultivated from the blood of both mother and child. Clark[8] (1915), in a study of 400 cases, found that the placental blood showed malarial parasites in 19 cases, whereas the maternal peripheral blood only showed infection in eight cases. Thus the placental blood revealed malaria in 11 cases in which the peripheral blood was negative. Out of these cases the blood from the umbilical cord only showed infection in one case. These observations bear out the view that, under normal conditions, the maternal and fœtal bloods never come in contact.

From the foregoing it would appear that although direct transmission is apparently possible it is a very rare occurrence. The case in which there is little doubt that it was one of direct transmission is as follows:—

Account of a Case.

The mother, who had returned to England from a visit to the continent, and had never been further east than Venice, gave a history of irregular attacks of fever during the last two months of pregnancy. The diagnosis in this case was somewhat obscured by the fact that there was a marked bacilluria with some of the symptoms attending that condition. On the day after a full-term child was born the mother's temperature rose to 104° and splenic enlargement up to three fingers-breadth was present. On examination of the peripheral blood a fairly heavy infection of benign tertian parasites was found. The temperature of the child remained within normal limits until the sixteenth day, when it rose to 104·8°, there was a marked icteric coloration of the skin, and on examination of the finger blood a heavy infection of benign tertian parasites was seen. Numerous gametocytes were present, as many as four being found in one field. Both the patients responded satisfactorily to quinine.

This case occurred in Buckinghamshire, and we are not aware of the presence of any anopheles in this particular locality. Although in the case of trypanosomiasis there is a possibility of infection of the child through the milk, it seems unlikely that infection in this case took place in this way, and judging by the time required for the development of the numerous gametocytes present the most obvious assumption is that this is a case of congenital malaria.

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THREE CASES OF FUNCTIONAL MENTAL DISORDER DUE TO TOXÆMIA FROM THE BOWEL

IN WHICH DECEPTIVE SIGNS OF ORGANIC DISEASE EXISTED.

BY JAMES WALKER, M.D., CH.B. EDIN., D.P.H. LIVERP.,
SENIOR ASSISTANT MEDICAL OFFICER, CARDIFF CITY MENTAL HOSPITAL.

THE subject of intestinal toxæmia has of recent years attracted attention, with the object of confirming or refuting the claim that it is an important factor in the causation of disease. It is hoped that the three cases to be described will confirm the importance of toxæmia in producing symptoms and signs of disease affecting particularly the nervous system. Although the response to treatment in each case shows that the symptoms were due to disordered action of the bowel, it is to be carefully noted that when these cases came under observation the symptoms were more than suggestive of organic disease.

A Case of Hypochondriasis.

Intestinal hypochondriasis is a fairly common complaint, chiefly found in people past middle life. Although, like hysteria, hypochondriasis is only a name applied to a syndrome of subjective symptoms

where actual disease cannot be found, it is the duty of everyone to try and find a physical basis for these symptoms. In the following case of hypochondriacal melancholia a definite physical cause was discovered, thus affording striking evidence of the value of the employment of every possible method of examination when dealing with cases whose symptoms appear to be solely subjective.

The case is that of a female, aged 63 years, in whom there is a history of a previous attack of melancholia nine years ago, but no inherited mental instability. On admission to hospital on Dec. 20th, 1923, her mental symptoms consisted more of apathy than of depression. Mentation and conversation were sluggish, but there was no disorientation. Physically she was undernourished, her weight being 6 st. 6 lb. No gross physical disease was discovered except a slight thickening of the radials and a decided distension of the abdomen. The urine was free from albumin and sugar.

The subsequent history of the case is as follows. On account of the abdominal distension, and remembering the frequency with which constipation is associated with acute mental disorder as first seen, this patient was given an ordinary enema followed by a saline purge. These measures proved effective, and next day there was marked improvement in the mental state, with almost complete disappearance of abdominal distension. Attention was again drawn to the patient seven days later by the reappearance of mental symptoms in the form of excitement, mild restlessness, and insomnia. Examination showed that the abdomen was again distended, the patient remarking that she had a "blockage of the back passage." There was tenderness and pain in the region of the middle part of the descending colon. Under the circumstances one was not justified in ignoring the patient's statement about blockage of the back passage. Rectal and abdominal examination gave negative results.

The patient was now placed on a purely milk diet with morning and evening doses of liquid paraffin. There was again decided mental and physical improvement, but a surgeon was consulted as to whether there was any likelihood of a growth in the wall of the descending colon to account for the condition. The surgeon was of this opinion, and a barium meal gave corroborative evidence. There was marked delay in passage through the colon, and it was 54 hours before any of the barium had reached the rectum. In none of the films was any barium seen in the middle part of the descending colon. The patient continued to manifest no mental disturbance while under treatment, and therefore was discharged from hospital one month after admission. She and her relatives were advised to seek surgical treatment in the local general infirmary.

The subsequent history is as follows. She attended the infirmary for observation and treatment, and in due course the obstruction passed away without the necessity of surgical interference. On August 18th, 1924, she was visited at her home and was found to be very cheerful and performing her usual domestic work. She informed the visitor that her bowels were acting quite regularly.

The evidence in this case is strongly in favour of a physical basis for the symptoms of hypochondriasis. A toxæmia secondary to the morbid condition of the alimentary tract is the most reasonable explanation of the mental symptoms, especially in a constitution likely to be more susceptible on account of a former attack of melancholia.

A Case of Toxic Psychosis Simulating Clinically General Paresis.

This case is interesting for two reasons. It shows, first, how important it is to search for every possible source of toxæmia in every patient under treatment for mental symptoms, and second, the value of employing every means of investigation, including that of the laboratory, to enable a satisfactory differential diagnosis to be made.

The patient is a female, aged 52 years, married, and suffering from a first attack of mental disorder, the duration of which is given as six weeks. She was admitted to hospital on Jan. 22nd, 1924. From the medical certificates accompanying her admission we learn little except that her husband states that he has noticed a loss of memory. The family and personal history is interesting. Her parents died in old age, although her father was given to drinking heavily. Patient had one child who died in infancy, and had one miscarriage. She herself is a seven months child, was anæmic at puberty for two years, had suffered on two occasions from rheumatic fever, and had gastric trouble for 20 years, which is reported to have commenced with a hæmatemesis. There is also a history of a definite physical stress. She was on her husband's ship at the time this was torpedoed in 1917. The patient has lived for several years alone during her husband's absence at sea, and during that time has indulged freely in alcohol, consuming at least two bottles of whisky per week. The relatives noticed that for seven months prior to admission she was unsteady on her feet, and suffered from pains in the legs, feet, and fingers, and from vomiting at irregular intervals. This information was not available for over a week, and meanwhile the patient was subjected to a general physical examination, the alimentary tract radiographed, and the usual serological tests performed in the blood and cerebro-spinal fluid.

Physical examination revealed the following phenomena. She was extremely emaciated, and her skin so sallow as to resemble some degree of bronzing. Her fingers and toes were cyanosed, with some patches of local anæmia. Nothing abnormal was found in the rsspiratory system. Beyond a decided impairment in the force of the heart's beat nothing of note was found in the circulatory system. The radial arteries were not thickened, and the systolic blood pressure was 122 mm. Hg. The abdomen was retracted, and on pressure definite tenderness was elicited in the epigastrium and along the course of the colon. The knee-jerks were practically absent. The pupils were normally placed and of regular outline, but failed to react to light, direct and consensual. There was a decided tremor of the tongue. Some impairment of articulation and blurring of test-words may partly be accounted for by the absence of teeth. As far as it was possible to test cutaneous sensibility, anæsthesia to pin-pricks was found below the knees. Foot-drop was not present. Patient was ataxic and was unable to walk without falling. During the fortnight after admission it was not possible to get any information or help from the patient on account of the extreme degree of mental confusion present.

Two days after admission the alimentary tract, following a barium meal, was radiographed. This examination showed that the stomach was so proptosed as to be lying deep in the pelvis, was atonic, and showed delay in emptying. There was stasis at the ileo-cæcal junction. Marked stasis was evident in the colon with spasticity of the splenic flexure and descending colon. The Wassermann test was negative in the serum and cerebro-spinal fluid, and in the latter the Ross-Jones test was negative.

Differential Diagnosis.—Excluding the family history and the results of the serological examination, the symptoms made one think of two possible pathological conditions—namely, a toxic psychosis and general paresis. There were several symptoms present which are common to both these conditions—e.g., absence of knee-jerks, tongue tremor, ataxia, as well as the mild degree of mental exaltation that developed during the first week of residence in hospital. In favour of a toxic psychosis, in addition to the symptoms just mentioned as being common to both conditions, there is the peripheral anæsthesia, the emaciation, the sallowness of the skin, the result of the radiological examination, and the negative serological findings. The history of excessive consumption of alcohol and of 20 years gastric trouble strengthens the diagnosis of toxic psychosis. The condition of the pupils is especially interesting. This is one of the few reliable physical signs found in general paresis. Here the loss of the light reflex was clearly due to some cause other than organic disease of the central nervous system. Besides the toxæmia due to the consumption of alcohol, there is no doubt that the alimentary tract has given rise to toxæmia. The progress of the case will bear this out.

Acting on the view taken that this patient's condition was due to toxæmia, not only alcoholic but alimentary, measures were taken to remove the latter by systematic lavage of the colon, which proved to be urgently required. The former source of toxæmia was easily eliminated by her stay in hospital. A fortnight after admission progressive improvement in the gait and locomotion was noted, the knee-jerks returning, and the pupils again reacting to light. Coincident with these changes there was a corresponding improvement in her mental condition. She was discharged recovered on March 18th, 1924.

In July, 1924, when she was seen again, she was quite normal in every respect, spontaneously remarking that she had never felt better for 20 years, a statement immediately corroborated by her husband.

A Case of Functional Mental Disorder Resembling a Case of Organic Nervous Disease, in whom Alimentary Toxæmia is an Important Causal Factor.

The patient is a female, aged 39 years, married, and the duration of the illness is given as nine months prior to admission. This is her first attack of mental disorder. She was admitted to hospital on Oct. 12th, 1922, and discharged recovered on Jan. 23rd, 1923.

The family history reveals a neurotic heredity. A sister has been weak-minded from childhood, another died from tuberculosis, and a maternal uncle was excessively alcoholic. The personal history is uneventful until two years before the onset of the present mental disorder, when she commenced to suffer from what was described as indigestion. The mental disturbance commenced with depression, and she suffered from the morbid fear that she would get beyond her own control. Prior to admission patient developed weakness of the lower extremities and was unable to walk steadily.

On physical examination patient was found to be generally reduced in health and had marked pallor of the skin. After admission she was too confused to give any account of herself or to help in the examination. The respiratory and circulatory systems were normal. There was no enlargement of the thyroid gland. Tremor of the tongue was absent. The deep reflexes were exaggerated and equal on the two sides. The gait was unsteady and patient could only walk with difficulty. Speech was defective with certain test-words. It was impossible to test coördination and muscle sense. The pupils failed to react to light, both direct and consensual. Her teeth appeared to be good. The bowels were constipated. The urine showed no abnormal constituent. The Wassermann reaction was negative in the serum and cerebro-spinal fluid, and the Nonne-Apelt test also negative. A fortnight after admission she was sufficiently recovered to enable a radiological examination to be made. This demonstrated marked atony of the stomach with proptosis, delay at the ileo-cæcal junction, and extreme stasis in the colon, with spasticity.

Differential Diagnosis.—In the first place the symptoms resembled in many respects those found in organic nervous disease, and until the serological findings were known it was impossible to exclude the possibility of general paresis. As in the previously mentioned case, the pupillary light reflex was lost and the gait unsteady. Only one possible focus of toxæmia was discovered—namely, the morbid condition of the alimentary tract. The neurotic inheritance is an additional element in this case, and is probably of primary importance, the toxin inciting mental disorder in a constitution hereditarily weakened. It was agreed that this was a case of toxic psychosis.

Progress of Case.—Treatment consisted in the administration of intestinal antiseptics—kerol in capsules thrice daily, intestinal lavage, a milk dietary, and in the later stages diathermy. Shortly after admission patient very nearly developed acute intestinal obstruction, and for about three weeks the bowels failed to act in response to enemata. When this yielded to treatment there was a coincident improvement in her mental condition. Within a week of this, patient was able to be out of bed, and the power of walking progressively returned to normal. During the following month patient became quite well mentally and was discharged from hospital fully recovered after a residence of two and a half months.

For over a year after her discharge she was kept under observation through the out-patient psychiatric clinic at the Cardiff Infirmary under the direction of Colonel E. Goodall. She maintained excellent health during that time, showing no evidence of mental disorder.

Deductions.

The following deductions can be made from the study of these cases :—

(1) The nervous system is susceptible to the influence of toxæmia either of exogenous or endogenous origin.

(2) Toxæmia of intestinal origin is more frequent than is generally accepted, its deleterious action being more easily produced and more marked when the general health is either reduced by previous illness or the powers of resistance impaired by such agencies as heredity, personal neglect and malnutrition, and unhealthy environment.

(3) Provided the toxæmia has not produced definite organic changes, it is quite safe to give a good prognosis. When recovery is complete an attempt should be made to explain to the patient how the illness was caused, in order to ensure a more satisfactory mode of living and at the same time considerably lessen the chances of recurrence.

In conclusion, I desire to thank Colonel E. Goodall, medical superintendent, for permission to publish these notes, and for valued criticism during their compilation.

IRON DEFICIENCY AND ITS POSSIBLE RELATIONSHIP TO HUMAN DISEASE.

BY J. P. McGOWAN, M.D., B.Sc. EDIN.

(*From the Rowett Research Institute, Aberdeen.*)

IN previous communications [1] an important and widespread disease in young pigs has been described. This has been shown to be of the nature of an anæmia of the chlorotic type, induced by a lack of iron in the milk of the sow. The milks of all animals, especially when subjected to artificial selection and rearing, ideal as they are as a food in other respects, have this drawback in common, that they are relatively poor in iron.[3] In young, fast-growing animals, such as the suckling pig, living for a time entirely on milk, the effect of this deficiency can be readily seen. The consequences, however, can be kept in check by causing them, by one means or another, to ingest ferric oxide during the period when they are entirely dependent on their mother's milk—i.e., during the first three weeks of life. Iron deficiency, apart from causing death in an acute form and the production of "wasters," forms the basis for the appearance of cotton-seed meal injury or poisoning, a condition which has greatly hampered the utilisation of cotton seed as a food for pigs in the United States.[2]

In the investigation of iron deficiency in pigs some points have been elicited which may have a bearing on human pathology. It is proposed to indicate these briefly.

The Ætiology of Chlorosis.

It has already been stated that the disease is of a chlorotic nature. While mild cases do occur, the fatality of the condition and the degree of the pathological changes may be much greater than are those usually associated with chlorosis in human beings. The disturbances, however, are of the same nature, and their severity may be somewhat discounted in the comparison if one takes into consideration the difference in age period and growth potential of the suckling pigs and the fact that advanced cases of chlorosis are rare, and those examined post mortem rarer still. Clifford Allbutt,[4] in an exhaustive survey of the literature, subjects the conditions alleged to have a bearing on the ætiology of chlorosis to a minute examination, and, as a result, concludes that chlorosis is part and parcel of the changes that occur in women at puberty. Every girl, he thinks, may be regarded as potentially chlorotic, and perhaps, he suggests, none pass through womanhood without some phase of the disorder showing. Lloyd Jones [5] thinks that chlorosis is the exaggeration of a fertile blood—of blood, that is, which has for its end the storage of nutritive material for the fœtus during pregnancy. The changes in the blood in chlorosis, he thinks, are an extreme fluctuation of a physiological quality of the child-bearing period of life. He suggests that the immediate cause may be a profusion—a toxic excess—of an internal secretion from the sexual glands. Campbell,[6] as the result of an elaborate study of cases at Guy's and other hospitals in Britain, comes to much the same conclusions as the authors just mentioned. These views, while indicating the important part that sex and puberty play in the origin of the disease, would appear to be somewhat fatalistic, regarding chlorosis, at any rate in its mild form, as necessary, and not an evil, in the sense that it forms part of the essence of fertility. These opinions, however, seem to be discounted by the great decrease of chlorosis within recent years,[6] without there being anything to indicate that fertility has been reduced at the same time.

The disease may be regarded from another angle, and another theory of its nature suggested. Stockman[7] has shown that the habitual diet of certain chlorotics, which he examined, was very poor in iron. Baillet [8] has shown that in women at

puberty, as compared with men of the same age, there is a critical fall of the amount of iron in the liver. Having regard to the known facts, this cannot mean that less iron is required, but either that iron is being used up at a greater rate or that less iron is being absorbed. In the iron deficiency in pigs it was very noticeable that the more rapidly growing pigs, in which metabolism would be proceeding at greater rate, were most severely affected with the disease. It is usually assumed that increased metabolic activity, associated with the development of various organs, characterises puberty.[9] Various explanations have been given for the great decrease in the occurrence of the disease within recent years, noted by all recent writers (Price,[10] Campbell (loc. cit.)). Having regard to the points just enumerated and in consideration of the dual function of iron in the body referred to later, chlorosis might be regarded as the expression of a real lack of iron in the tissues of the body. It could be supposed that the changes at puberty might produce an increased demand for iron in the tissues to cope with the increased metabolic activity at this time. This might not be forthcoming in the habitual diet, in which it may be assumed no change has been made to meet the onset of puberty. This could initiate a condition of ill-health, characterised possibly by indefinite symptoms, among which almost certainly would be a diminished or depraved appetite, which would lead, on its part, to a further diminished intake of iron. There would thus be initiated an ever-widening vicious circle by means of which the disease condition would become more and more stabilised or fixed owing to organic changes, due to the lack of iron, taking place in tissues such as the liver, more fixed in type and less labile than the blood.

In this connexion attention may be drawn to the tendency for remissions to occur in chlorosis and to a possible explanation in terms of what has just been said. The hæmoglobin of the blood can easily be restored to normal by the administration of iron. The patient, however, is not necessarily cured when this has been accomplished, and a prolonged course of iron administration is usually found to be necessary. The reason of this may be that the more or less fixed, or more differentiated tissues of the body, having been disorganised by the lack of iron, require a prolonged treatment with it before they can be brought back to a normal condition. Hence the liability for the disease to recur. It will be seen that, in the view expressed here regarding the disease, emphasis is laid not on the lack of iron in the blood, but on the lack of iron in the tissues. With regard to the decrease of the disease in recent years, it could be argued that the changed outlook on life in women, approximating more and more to that of men, has much to do with it. Athletics, outdoor life, &c., by their effect on appetite, together with an improved public opinion as to what constitutes suitable food, might render it less likely that the onset of puberty would be caught, so to speak, unawares in the vicious circle referred to above.

Iron Deficiency and Rickets.

It is possible that iron deficiency may play a part in the production of the *symptôme complexe* of rickets. In this condition there are, in many cases, enlargement and fatty change in the liver, secondary anæmia—in some cases so profound as to resemble that present in chlorosis, and the subjects of the disease are often abnormally fat (Hutchison[10])—all occurrences which are found to a marked degree in iron deficiency in pigs. Milk is very poor as regards its iron content, and the various artificial foods so prone to cause rickets are poorer still.[11] It is not, however, suggested that the lack of iron, of itself, causes rickets, but the view is put forward that it may, by simple addition, modify considerably the picture of the disease as it is seen clinically. If regard, however, is had to the importance of iron in ultimate tissue metabolism, it may quite well be that the picture is not one of the simple algebraic sum of rickets and chlorosis. They may interact, and mutually aggravate one another. In this connexion, and as an instance of how the two conditions may clash locally, may be mentioned the changes occurring in relation to bone in these two diseases.

Pathological Changes in Iron Deficiency in Pigs.

The pathological changes, present in iron deficiency of pigs, include in varying degrees of intensity and in varying combinations the following: anæmia, enlargement of the heart, effusion of fluid into the various serous cavities, and fatty change and necrosis of the lobules of the liver. In the earlier stages of the disease, which may, however, be severe enough to cause death of the animal, there may be present nothing more than anæmia, enlargement of the heart, and effusions into the various cavities. Such cases have a considerable resemblance to those of wet beri-beri in human beings, and it is a suggestive fact in this connexion that whereas rice bran contains 0·232 per cent. of iron, polished rice contains only 0·003 per cent.[11] Beri-beri is usually attributed to a lack of vitamin B, but it may quite well be that the ætiology of wet and dry beri-beri are different, and up to the present there is no proof that they are the same.

On the other hand, in the advanced cases of the disease, the changes occur principally in the blood and blood-forming organs, and in the liver. Advanced anæmia of the chlorotic type is present, while the liver is greatly enlarged and altered. The individual lobules are either in a state of advanced fatty change or have been destroyed for the most part and their place taken by blood. On regeneration the liver shows cirrhotic changes.[12] Such cases resemble those of toxic jaundice due to poisoning with such substances as tri-nitro-toluene, &c. (Panton,[13] Stewart[14]), where the brunt of the action also falls on the liver and the blood (Wyon[15]). From such considerations as these the suggestion might be made that such poisons produce their effect by putting the iron in the tissues out of action.

Roger[16] has emphasised the dual action of iron in the body—as a constituent of hæmoglobin, and also as taking a part in the life functions of every cell in the body and especially of the liver cell. The conditions found here would appear to support and emphasise this view, which again, vouched for by an authority like Roger, has been used in the explanation of some of the phenomena dealt with above.

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VOCAL THERAPY SOCIETY.—An address will be given at the Royal Hospital, Chelsea (Governor's House, East Gate), on Wednesday, Nov. 26th, at 5 P.M., by Sir Henry Hadow, Mus.D., Principal of Sheffield University, on the Healing Influence of Music exemplified in medical treatment combined with the Vocal Therapy Society's training in concerted singing. Lord Blanesburgh will take the chair. Members of the King's Services Choirs from Ewell Ministry of Pensions Hospital will sing. Free tickets for admission may be had on application to the Secretary, V.T.S., 27, Grosvenor-place, S.W. 1.

ON THE INFLATION TEST FOR TUBAL PATENCY

AND A SIMPLE INSTRUMENT FOR CARRYING IT OUT.

BY VICTOR BONNEY, M.S., M.D., B.Sc. LOND., F.R.C.S. ENG.,

SURGEON, CHELSEA HOSPITAL FOR WOMEN; ASSISTANT GYNÆCOLOGICAL SURGEON, MIDDLESEX HOSPITAL, ETC.

THE test for tubal patency by inflation from below in cases of sterility is now commonly employed in the United States, and is gradually being taken up in this country. The apparatus favoured in America, an example of which was demonstrated at the annual meeting of the British Medical Association last year,[1] consists of an arrangement whereby carbon-dioxide gas can be passed into the uterus through a tube to which is affixed a cone-shaped indiarubber obturator. This obturator is kept firmly pressed into the external os, whilst the gas is being injected so as to prevent its backward escape. A manometer is attached to the apparatus, and the pressure shown indicates whether the gas is freely passing into the peritoneal cavity or not. If the tubes are patent a pressure not much over 100 mm. of mercury should be registered. Confirmation of the passage of the gas can be obtained: (1) by hearing through a stethoscope the gas escaping from the abdominal ostia; (2) if the patient is not anæsthetised and sufficient gas be introduced, by her complaining of pain in her right shoulder due to vagus disturbance, a proceeding which does not commend itself to me; and (3) by examining the abdomen with the fluoroscope after injecting a considerable quantity of gas into the peritoneal cavity.

My colleague, Arthur Gray, pointed out to me that such an elaborate apparatus was not necessary, and that equally reliable results could be obtained by injecting air by means of a simple rubber bulb, attached to which was a metal tube furnished with a rubber obturator. The tube, having been inserted into the uterus and the obturator pressed into the external os, the degree of resistance experienced by the hand compressing the bulb indicated quite clearly, not only whether the air was passing into the abdominal cavity or not, but whether, if passing, it passed with normal ease.

As a result of trying Gray's apparatus I bethought me of a device whereby the obturator could be dispensed with, for it was difficult entirely to prevent the injected air leaking past the obturator when the cervix was deformed, and it was impracticable to keep the obturator pressed against it with the abdomen opened in the Trendelenburg position, though, as I shall presently show, it is most desirable to be able to inject air under these conditions.

The instrument I had made consists of one-half of a Fenton's dilator, size 7, with a channel running through it from end to end, closed during the introduction by a stylet. Attached to the dilator by means of an air-tight push-joint is a rubber tube and bulb, which by a T-piece connects with a manometer, like that used with a sphygmograph. (See Fig. 1.)

Method of Use.

The method of using it is as follows: Under anæsthesia the cervix is dilated in the usual way, but instead of the ordinary No. 7 Fenton being used, the perforated dilator is introduced instead. The stylet is then withdrawn, and the rubber tube, bulb, and manometer is attached to the proximal end of the dilator. The bulb is then steadily compressed with the hand, and the resistance encountered is noted on the manometer. Such is the pressure of the cervical wall against the dilator that no air escapes backwards between them, even under strong pressure. The point to be ascertained is whether the bulb can be emptied without undue exercise of force for, if it can be, then the air must have passed into the peritoneal cavity. It is quite unnecessary, and in fact undesirable, to empty the bulb more than once.

In practice one of four things happens:—

1. *The bulb is emptied without any difficulty, the pressure not rising much above 100 mm. at any time and falling to zero by the time the bulb is empty.*—This indicates that one or both tubes are freely patent: a finding which in a case of sterility at once contra-indicates any abdominal operation having for its object the opening up of the tubes.

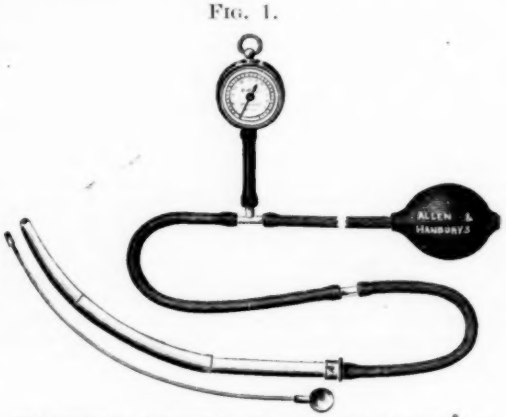
2. *The bulb cannot be emptied, although the pressure is raised to 200 mm.*—Above this it is not safe to go, for fear of rupturing the tubes or uterine cornua. Such a finding shows that both tubes are blocked, and in a case of sterility indicates that an attempt should be made to reopen them through the abdomen. A small amount of air can be forced into the uterus by distending its cavity, but not enough nearly to empty the bulb. I have been able to observe what happens when the uterus is inflated under these circumstances and find it is the cornua which distend, the uterine wall in these regions being relatively thin and stretchable.

3. *The bulb empties but with difficulty, the pressure required being well above 100 mm., but when emptied the pressure falls to zero.*—This shows that there is a partial block, the air escaping into the peritoneal cavity very slowly. In a case of sterility here, as in the preceding, an abdominal operation is indicated.

4. *The bulb empties with difficulty, the pressure required being well above 100 mm., and when empty the manometer continues to register a definite pressure.*—This shows that the air has distended a tube closed at its abdominal end only, the pneumo-salpinx thus formed acting like the compressed bulb and continuing to maintain the pressure. An abdominal operation is indicated.

The dilator, the bulb, and the tubes are sterilised by boiling, the manometer being subsequently attached by means of a separate unboiled section of tube. It might be suggested that the injection of air carries

FIG. 1.



The apparatus designed for carrying out the inflation test for tubal patency.

with it the risk of infecting the tube with air organisms. A moment's consideration will show that if there was such a thing as air-borne septic infection no surgical operation would be safe. As a matter of fact, the experiments carried out by Andrews some years ago showed that air, when collected from such a crowded thoroughfare as Oxford-street, does not contain the organisms of common sepsis. It is probable that every time uterine dilators are used a certain amount of air is forced into the tubes if their inner ostia be patent. A more cogent objection is the possibility of blowing into the tubes septic organisms derived from the vagina or cervix, and where definite infection of these is present inflation should certainly not be carried out, nor for that matter dilatation of the

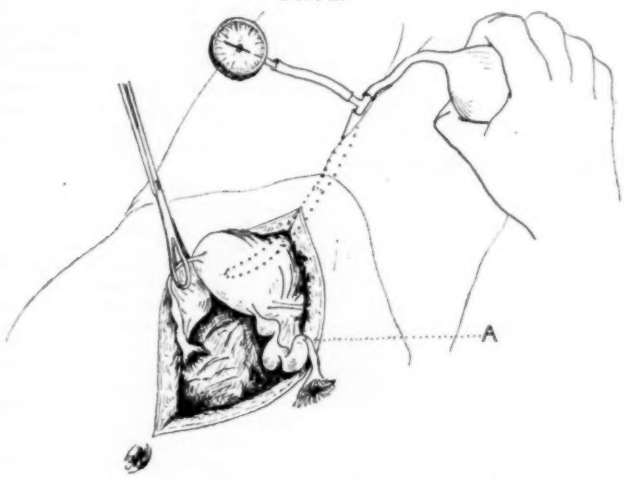
[1] Gilman Currier: Jour. Obst. and Gyn. of British Empire, vol. xxx., No. 4.

cervix either. For the rest it would appear from the now large experience of American surgeons that infection of the tubes does not occur, and this is what I and my colleagues have also found.

Inflation with the Abdomen Opened.

Suppose, then, that the operator finds either a deficient passage of the air or no passage at all. The dilator with the bulb attached is left in the uterus and secured there by packing gauze into the vagina round it. The abdomen is then opened and the condition of the tubes inspected. A ring forceps is now placed on one of them so as to close it securely, and an assistant then compresses the bulb so that the surgeon can see what happens to the other tube. (Fig. 2.) If the block is at the inner ostium no air at all enters the tube, but if it be further along, the tube will be seen to dilate as far as the block. The ring forceps is now taken off and applied on the other side and the condition of the second tube is investigated in the same way.

FIG. 2.



Testing the right tube with the abdomen opened and the patient in the Trendelenburg position. The tube is obstructed at A.

The surgeon has now to decide whether he should open up the tubes or one tube only, or neither according to the condition found. I do not propose to discuss the various methods of making a new outer ostium, or of establishing patency when a long length of the inner end of the tube is occluded. Different conditions require different measures, and the surgeon must adapt himself. Suffice it to say, that for some time past I have in most cases simply slit the tube along its free border and continued the slitting until air driven in from below escapes freely into the abdominal cavity. I do not suture the edges of the slit, but simply compress them with a swab and let them lie until all oozing has stopped. In most cases this can be done, and it has the advantage of leaving no foreign-body sutures to cause subsequent adhesion.

What Inflation Teaches.

The most important thing that inflation teaches is that in an unexpected proportion of cases of sterility the tubes are not freely patent, although tactile examination reveals nothing apparently abnormal about them. When one comes to examine such tubes through an abdominal incision, the blockage is found to be due either to closure of the abdominal ostia by adhesions, or to stricture, usually multiple, along the course of the tube, or to kinks in the tube. All these conditions are probably, in most cases, the after-results of inflammation, but of inflammation so slight that the patient's past history can be searched without finding any clue pointing to the date of its occurrence. That the original trouble is sometimes tuberculous is proved by the not infrequent finding of tiny nodules on the peritoneal surface of the tube or mesosalpinx, but of so mild and transient a nature must the infection have been that no symptoms were at any time produced. In other instances slight salpingitis, producing no more than a transient stomach-ache, may have followed an infected miscarriage, or have been a sequence to non-venereal streptococcic or staphylococcic cervicitis or even to gonorrhœa. As a rule, however, this is mere supposition, for the history is silent.

It is noteworthy that many of these closed tubes present an appearance so like the normal that close inspection is needed to see the deformity. This particularly applies to kinks. A kinked tube presents a series of slight moniliform dilatations, the sections intervening between which mark the points where the mesosalpinx is shortened. On inflating the tube from below these appearances become very much more marked. The mesosalpinx at the points of shortening often resembles on a minute scale the mesentery of kinked intestine in that it exhibits fine tethering bands.

The mechanism of the production of tubal kinks probably varies. In some cases multiple strictures due to salpingitis lead to dilatation of the tube between the strictures, with elongation of the mesosalpinx at the seat of dilatation and relative shortening at the points of stricture. In other cases local shrinkage of the mesosalpinx is probably the first happening, and this, by kinking the tube, obstructs it and leads to dilatation of those sections not kinked. Finally, both processes may go on together. Whichever way it happens the kinks play a large part in the obstruction, for it often happens that on straightening the tube by pulling and stretching the mesosalpinx, while inflation is being carried out, the obstruction disappears and the air passes through the abdominal ostium.

This leads me to an effect of retroflexion. I am of opinion that this displacement is responsible in some cases for kinkage of the tubes, at first merely by causing them to assume abnormal curves and angles, which later on become permanent owing to organic alterations in the mesosalpinx, a parallel, in fact, to what happens with displaced intestine. It is certain that I have now had several cases in which air refused to pass with the uterus in retroflexion, but passed readily enough directly the displacement was rectified through the abdominal wound. If my observations prove to be of general application, they afford one explanation of the sterility so often associated with retroflexion.

Finally, inflation of the tubes in some cases aids the surgeon in diagnosing the nature of a pelvic mass. As an example, if a swelling is found on either side of the uterus and on inflation the bulb can be emptied, showing that one at least of the tubes is patent, then the mass on one of the sides is not tubal. I had such a case lately which on opening the abdomen exhibited bilateral ovarian blood cysts, the tubes being strongly adherent to the cysts, but in themselves both quite normal and patent.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—A special course in infants' diseases (for medical officers of welfare centres and others) will be given at the Infants Hospital, Vincent-square, Westminster, from Dec. 1st to 13th. The names of qualified practitioners wishing to attend the course (the number will be limited to 15) should be sent to the secretary of the Fellowship at 1, Wimpole-street, W. 1.

Clinical and Laboratory Notes.

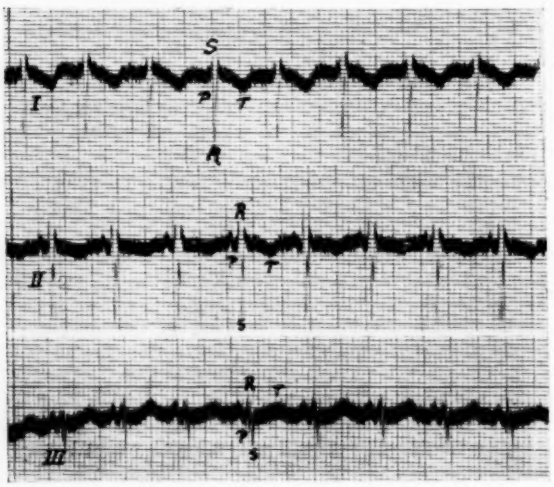
CONGENITAL AND ACQUIRED DEXTROCARDIA.

A CASE COMBINING BOTH TYPES.

BY A. I. G. MCLAUGHLIN, M.B., CH.M. SYD.,

FORMERLY RESIDENT MEDICAL OFFICER, CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, VICTORIA PARK.

Wallace Jones [1] defines dextrocardia as a "condition in which the heart beats in a more or less permanent manner in the right half of the thorax." Cases of dextrocardia are usually subdivided into (1) inversions, or "mirror image" of the heart; and (2) dextroversions, where the heart is displaced to the right without inversion of the cavities. Inversion of the heart is invariably congenital in origin. Dextroversion may be congenital, but is more frequently acquired.



Electrocardiogram of a case of dextrocardia. Inversion of lead I. and transposition of leads II. and III.

The following case is unusual in that it combines the features of both congenital and acquired types.

The patient, a male, aged 22, was admitted to hospital on August 13th, 1923. His symptoms were cough, sputum at times slightly blood-stained, shortness of breath, night sweats, and slight loss of weight. His previous illnesses were measles and whooping-cough at 6 years of age, and an attack of right-sided pleurisy in January, 1923, since when he had suffered from a persistent cough.

Examination of the chest revealed the presence of dextrocardia, the apex beat being 4½ inches to the right of the midsternal line in the fifth intercostal space. Marked impairment of the percussion note was elicited at the base of the right lung, together with amphoric breath sounds, whispering pectoriloquy, sharp consonating crepitations, and the peculiar squeaking sucking sounds, described as being characteristic of fibrosis of the lung by Clark, Hadley, and Chaplin.[2] An interesting feature was that consonating crepitations could also be heard in exactly corresponding situations on the left side of the chest, without any accompanying impairment of the percussion note. This would suggest that the sounds were conducted from the right side. At the right apex the percussion note was somewhat hyper-resonant and the breath sounds were tinkling in character, suggesting the presence of a localised pneumothorax, or possibly a very large cavity in the upper lobe of the lung. Tubercle bacilli were found in the sputum. On examination of the abdomen, the stomach was found to be on the right and the liver on the left side.

The electrocardiogram (see figure) presented the typical appearance of a true dextrocardia—i.e., inversion of lead I., with transposition of leads II. and III. A radiogram showed the displacement of the heart to the right, a dense opacity at the right base, and at the apex a large cavity, traversed by several strands, presumably blood-vessels.

[1] Jones, Wallace: Brit. Med. Jour., Jan. 26th, 1924, p. 147.
[2] Clark, Sir A., Hadley, W. J., and Chaplin, A.: Fibroid Diseases of the Lung, p. 102.

Points in Diagnosis.

Briefly, the patient had complete transposition of the viscera, basal fibrosis, and apical cavitation of the right lung, with either primary or superadded tuberculous infection. The interesting points in the diagnosis were:—

1. The dextrocardia could be explained either by complete transposition of the viscera or by the basal fibrosis. The amount of cardiac displacement was more than is usually found in uncomplicated inversion of the heart. It was increased by the dextroversion due to the fibroid changes in the lung. The combination in one case of two causes of dextrocardia is probably very rare.

2. The fibrosis of the lung may possibly have commenced after measles and whooping-cough in childhood, or after the right-sided pleurisy in January, 1923. There was, however, no definite history of broncho-pneumonia following the measles and whooping-cough, and the usual signs of long-standing fibrosis of the lung were not present. The bulk of the evidence is in favour of the fibrosis being of pleurogenetic origin, dating from the pleurisy of January, 1923.

3. The condition present at the right apex might have been a localised pneumothorax, or a very large lung cavity. The physical signs suggested a localised pneumothorax, but the radiogram favoured cavitation. The subsequent onset of copious hæmoptysis also indicated that a cavity and not a localised pneumothorax was present.

A further possibility was that the illness of January, 1923, was a tuberculous consolidation of the right lung with subsequent cavitation of the upper lobe and fibroid changes at the base.

I am indebted to Dr. Clive Riviere for permission to publish these notes, to Dr. A. J. Scott Pinchin for the electrocardiogram, and to Dr. F. W. Hamilton, who referred the case to me from the tuberculosis dispensary.

OPTIC ATROPHY DUE TO LATE SYPHILIS.

A NOTE ON THE INTRACISTERNAL INJECTION OF MERCURIC CHLORIDE FOR THE ARREST OF THE CONDITION.

BY GRAYDON O. HUME, M.B., B.S. LOND., D.O. OXF.,

LATE CHIEF CLINICAL ASSISTANT, OPHTHALMIC DEPARTMENT, GUY'S HOSPITAL.

ACCORDING to Fuchs, optic atrophy occurs in 10–15 per cent. of tabetics, the first indication being a gradual deterioration of vision. By perimetric tests contraction of the field of colour vision is found, the limits for green in particular being restricted. Later the field for white becomes smaller, central vision fails, and amaurosis supervenes. The extensive work of Uhthoff and Stargardt emphasises the inconstancy and variability of the deterioration of vision in each individual affected. One fact remains, failure of vision is progressive and remissions never occur.

Affections of the nervous system due to late syphilis respond feebly to intraspinal treatment. There being no circulation in the ordinary sense in the cerebro-spinal fluid, in order to reach the region of the optic chiasma and optic nerves the drug in solution must be injected towards the base of the brain.

Following the suggestion of Dr. S. R. Gifford, of Omaha, U.S.A., I decided to adopt his technique for the injection of mercuric bichloride into the cisterna cerebellaris.

Practice with the lumbar puncture needle on the cadaver in the post-mortem room gives precision in the technique

of cisternal puncture. With the patient lying absolutely prone and with the forehead supported either on a brow rest or suspended in a sling, the lumbar puncture needle is inserted in the neck directly over the spine of the second cervical vertebra. The point is directed upwards in the middle line at an angle of about 45°—i.e., towards the mid-point of an imaginary line joining the two external auditory meati. Between the occipital bone and the atlas it pierces the dense occipito-atlantal membrane. When the graduated needle has entered to a depth of 4 to 6 cm., its point is in the angle between the medulla and the vermis. In order to avoid the danger of "plunging," a guard is placed towards the shoulder of the needle. Ten c.cm. of cerebro-spinal fluid are withdrawn, and to half this amount are added from two to five drops of the 0·5 per cent. solution of mercuric bichloride—each drop being calculated as equivalent to 0·25 mg. of the drug. An injection of four drops diluted would thus contain 1 mg. of mercuric chloride. (It is easy to determine the size of the drops by varying the rate of flow from a burette containing the solution.) The mercuric chloride solution further diluted in the 5 c.cm. of cerebro-spinal fluid is allowed to flow into the cisterna magna by gravity. Severe frontal and occipital headache with pallor, sweating, and a fall in blood pressure are the usual sequelæ. It is very desirable to precede or follow up this form of treatment by siphonage of never more than 6 c.cm. of fluid from the lumbar region of the canal; at the same time, an injection of novarsenobillon is made into a vein in the antecubital fossa.

Two of my three cases responded somewhat to treatment; in one the course of the atrophy was arrested for some time; in the other its rate was slowed down. Dr. Gifford informs me that he has had a series of cases in which the atrophic process came to a stop following *several* injections, and that some cases had actually improved.

Undoubtedly certain cases of optic atrophy due to late syphilis respond to this form of treatment and the progress of the atrophy is arrested at least for a time. Treatment by cisternal injections is most hopeful when commenced in the incipient stage of the atrophic process. The serious and relentless nature of optic atrophy associated with the late stages of syphilitic infection justifies our attacking the disease by a route which has added risks.

Medical Societies.

HUNTERIAN SOCIETY.

THE MEDICAL WITNESS.

THE Hunterian Society held a discussion at the Cutlers' Hall on Nov. 17th on the subject of The Medical Witness. Mr. H. W. CARSON (President of the Society) occupied the chair.

Mr. Justice HORRIDGE, who opened, said that no one who took part in any way in the administration of justice could exaggerate the importance of the medical witness in courts of law. The medical witness helped the court in every possible way, and his evidence was the handmaiden of justice. In criminal trials, from the simplest assault up to the most serious of crimes, that of murder, the medical witness was frequently called on, and often it was for such a witness not only to consider the facts of the case, but also to judge the criminal's responsibility for his actions. The result in cases concerning wills also often depended more upon the evidence of the doctor than upon anything else, and if a testator was fortunate enough to get his doctor to witness his will the circumstance went a long way to establish that will in the event of dispute. In the Divorce Court and in nullity suits the evidence of the doctor was of first importance. In workmen's compensation cases the doctor as medical referee of the court might be said himself to take part in adjudication. In a vast number of civil cases the evidence of medical witnesses was called on one side or the other. He desired, therefore, to give a few hints to doctors as to the way in which their evidence should be prepared and given. In preparation the medical witness could not be too careful to notice every minute fact even if at the time it did not seem to him to have any importance. Having ascertained the facts he should endeavour to form an opinion from his own scientific knowledge, but there was here a lively danger with regard to which it was necessary to utter a note of warning—the danger, namely, of approaching a case in the first instance with a preconceived idea. Some medical witnesses approached a case with the idea that, for instance, it was a poisoning case, and instead of setting to work to find out all the facts, great or small, and then forming their opinion on the post mortem or other evidence, they started out to see whether the facts of the case fitted in with their preconceived theory. There was nothing so dangerous as that. Their duty was to collect the facts and then to bring their own knowledge to bear. Even after they had formed a definite opinion they should keep their minds open so that should other facts be disclosed in the course of the trial they should be able to mould their opinions even up to their last moment in the witness-box.

Hints to Medical Witnesses.

The learned judge went on to say that in his experience, speaking generally, the fairness with which doctors gave their evidence was quite extraordinary. Often it had happened that when doctors had been standing below under the prisoner's counsel, and had heard the medical witnesses for the prosecution (or for the plaintiff, as the case might be) give their evidence, they had gone out of court because they were not able to contradict a single thing the doctors on the other side had said. The doctor in the witness-box should be on the look-out for the double question. Counsel very often put to witnesses a double question, and if the witness was not careful and gave a simple affirmative or negative the counsel would afterwards use that answer to the half of the question which suited him best. If the witness could give a direct answer, yes or no, he should do so; he was always entitled to qualify it afterwards and to add anything he wished to explain. He would also warn the medical witness against being lured into answering a question on a subject he knew nothing about. He should say that he had not considered the question, and was not in a position to answer it. The medical witness also should endeavour as far as possible to speak in ordinary language. In nine cases out of ten it was sufficient to say that a man was badly bruised; it was not necessary to say that he was suffering from ecchymosis. The use of technical terms often led to the judge or counsel having to explain their meaning to the jury.

Professional Privilege.

In conclusion, he proposed to say a few words about professional privilege. So far as he was aware there were only two classes of persons to whom privilege had ever been granted. It had been granted to solicitors, not on account of any professional status, but because it seemed to be necessary for the administration of justice and the elucidation of truth. Unless people were allowed to have their legal advisers in absolute confidence the machinery of the courts could not go on. The object of that privilege was to facilitate the work of the courts. But even this had its limitations; professional communications in a case of criminal conspiracy were not privileged and had to be disclosed. The second case in which privilege had been allowed was as between husbands and wives. That originally arose from the fact that in former days the wife had no existence apart from her husband, but it arose also from the fact that it would be impossible for society to continue if the relations between husbands and wives could be inquired into. But in recent years Act after Act had made husband and wife eligible witnesses against each other in criminal trials. On what ground should privilege be allowed to the medical profession? In his view there

was no ground. The evidence of doctors was required in order to aid the administration of justice. The claim could only be put forward on the ground of confidential relationship, but where was the line to be drawn? Was the nurse who attended the case also to be privileged? Was the chemist who made up the prescription to be privileged? Was privilege to be extended to faith-healers and bone-setters in their relations with their patients? The legislature in two Acts—the Notification of Diseases Act and the Notification of Births Act—both of which, he thought, were passed with the support of the medical profession, required the doctor to reveal, in public, matters which had come to him in his professional capacity. The law was clearly stated by Lord Mansfield, but the speaker would not put it only on the ground of law; in their innermost conscience the doctors must know that they were there to assist in the administration of justice, and it was for that reason that they were protected.

The Need for Impartiality.

Sir WILLIAM WILLCOX said that the giving of evidence was one of the greatest privileges of a medical man. The way in which he gave it might affect not only the result of the inquiry, but also his own reputation. In preparation for his evidence he should be careful to notice everything that might have a medico-legal bearing and record it, for memory was fallacious and untrustworthy, particularly as regards exact details. Even a trifling detail might turn out to be one of the most important points in a subsequent trial. His evidence should be given in clear and concise language, suited to persons of average intelligence possessing no special medical knowledge. In the case of expert evidence the doctor should realise that his function was to assist the court of inquiry by his special knowledge and experience. He should not be an *ex parte* witness, and should be absolutely free from bias. This was of supreme importance in criminal cases, but impartiality should be no less important in civil cases. The witness should refresh his memory by the most careful study of scientific literature; if necessary, he should conduct scientific experiments and investigations to elucidate any difficulties which might arise. He should cross-examine himself on every aspect of the question. Here the speaker wished to say what a great advantage it had been to him to have had consultations with counsel before a trial came on; the cross-examinations at these consultations were usually much more searching than those in the actual witness-box. It was an advantage to the expert medical witness to imagine himself in the position of the judge or of the cross-examining counsel and try and regard the subject of inquiry from their point of view as well as from that of counsel on the other side. With regard to medical reports, before being called on to give evidence the expert medical witness should express his opinion on the facts before him in a written report, and the reasons for his opinion should be concisely stated. The opinions expressed in that report should be his inalterable views upon which he had no doubt whatever. Any expressions of opinion on which there was any possibility of doubt should be omitted from such a document. In the witness-box evasions of a direct answer were apt to create a bad impression. A direct negative or affirmative should be given where possible, and if this was not possible the reasons for inability to give a direct answer should be clearly and courteously stated. Lengthy explanations and attempts to give lectures in the witness-box were apt to weaken the evidence. If a double or a triple question was put to him, the witness should ask for it to be suitably divided and make his reply on each section. If statements from books or reports were put to him, the expert witness would be wise to ask to see the work in question. Generally if books were quoted to controvert one's evidence it was possible, with the book in one's hand, to turn the tables. It would often be found that counsel had taken a chance passage out of the book, but that the context or the main argument supported the contention of the witness. Another point was that the expert witness should be in court during the whole of the proceedings. Indeed, it had been ruled that it was necessary for such a witness to hear the evidence. He concluded by expressing, out of his very lengthy experience as a medical witness, his sincere appreciation of the courtesy and consideration invariably extended to medical witnesses by members of the legal profession.

Sir FRANCIS NEWBOLT, K.C., said that he had found the medical experts almost the only experts who were fundamentally honest, and this he illustrated by cases in which experts on other lines had differed to an extent which he could not regard as an honest divergence. The bias in human nature produced by fighting on one side could not easily be overcome, but he liked to treat such cases rather as inquiries than as dog-fights. In his court it was not possible to bully a witness. This came about largely because there was no jury. No one who had ever sat on the bench could fail to distinguish between the two types of trial. When a judge was trying a case with a jury he had to consider all the time what was likely to be going on in the minds of the jury. If a judge sat alone he made his notes in the most convenient and also most true form by paraphrasing the witnesses, but if he had to sum up to a jury he had to put on his note the exact words used by the witnesses, otherwise he might be accused of garbling the evidence. The speaker added that even the honest experts of the medical profession were not impeccable. He recalled a case when he was at the Bar. In a workmen's compensation case at the county court, when the question was whether a much injured workman had recovered, a doctor called as an expert witness gave his evidence quite decidedly. Some time later the speaker was leading in a case at the assizes when the same doctor appeared on the other side, and in exactly the same circumstances gave evidence contrary to what he had given before. The speaker would not easily forget the disturbed look which came into the witness's face when he reminded him on the second occasion of that earlier encounter. His advice to medical witnesses would be that if they knew their book and were not afraid of anybody they could not be put down nor effectively cross-examined. The great thing to remember was common-sense, and if they could at the same time imagine that they were really appearing for both sides in a case they would make ideal witnesses.

The Dangers of Relying on Precedent.

Sir BERNARD SPILSBURY thought it might be claimed that the medical profession invariably gave evidence fairly and honestly, and that wilfully misleading or lying evidence was rarely heard from a medical witness. The responsibility of a medical witness in a serious criminal case might not seem so great to the witness himself as to those in court, for in all these cases the evidence was always given impersonally. Doctors were not giving evidence necessarily against the prisoner in the dock, but against the person, whoever he was, who committed the crime. In post-mortem examinations in criminal cases it went without saying that very careful and thorough investigation was required. The expert had not merely to ascertain the facts, he had correctly to interpret them, and it was in this respect that his evidence was of most importance. Members of the legal profession were too apt to think that a doctor had only to observe his facts, but medical men knew that those facts required careful analysis and interpretation before they became the true facts in the case. It was essential in many cases—in almost all criminal cases—that the naked-eye observation of the dead body should be supplemented by microscopical and in a certain proportion of cases by bacteriological examination also. There were a few cases in which the facts were so evident and undisputed that the medical evidence need be little more than formal, but apart from such cases he felt very strongly that skilled expert assistance

should be available to the general practitioner. A pathologist should be employed almost invariably. In addition to making a careful examination of the dead body and supplementing that examination by microscopical or bacteriological work, the examiner should always have time and opportunity very carefully to consider the facts he had elicited, and to weigh and compare them with similar facts in other cases, consulting authorities and text-books as required. Only after he had done all this should a medical witness give his evidence in the first—that is, the coroner's—court. With regard to the consulting of authorities, however, the speaker could not help feeling that personal experience based on accurate observation was far more valuable than any text-book. The authority of the text-book should only be supplementary. Text-books themselves were far from infallible, partly because the body of knowledge acquired had been taken from past cases in which the evidence was of very variable value. Moreover, many of these past cases were decided at a time when the knowledge of medicine was far less than to-day. The speaker referred in detail to the famous Palmer poisoning case and the Penge murder case to illustrate how different might be the deductions and conclusions should these cases have been tried to-day, and the danger of relying on older authority for guidance in connexion with recent investigations.

Dr. EDWIN SMITH (coroner for N.E. London) amused the meeting with some stories of curious verdicts and riders met with in his experience. One of these was the announcement of the foreman of the jury in a coroner's court that "death was due to the medical evidence!" In another case in which a man had been killed owing to the breaking of the axle of a vehicle, the jury recommended that the axles of all carts should be tested to breaking point! In a case of death which might have been due to lightning, but in which there were some circumstances pointing to the possibility of murder, the jury returned a verdict of "Death from a visitation of God under suspicious circumstances!" Dr. Smith said that it was sometimes the duty of the coroner to protect a medical witness from the unjust censure of the jury.

Mr. FREKE PALMER, as a solicitor practising in the police court, said that some medical witnesses, in his experience, were very fair and showed a readiness to help, but others seemed to resent any sort of challenge to their evidence by way of cross-examination. The importance of the evidence of a police surgeon was very great; the term was an unhappy one, because it seemed to imply that the police surgeon must give evidence on the side of the police, which was not the case. He complained a little of the shortness of time which police surgeons gave to the examination of persons alleged to be drunk, and of the fact that very often persons were not examined for illness.

Dr. P. B. SPURGIN, speaking as a police divisional surgeon, said that of late years, in his experience, stipendiary magistrates insisted upon a definite yea or nay to the question, "Was the man drunk?" and they would not allow the medical witness to qualify that in any shape or form. He described in detail the methods of examination which he carried out in cases of alleged drunkenness. The pupil reflexes and the smell of alcohol in the breath were absolutely useless as signs, but unsteadiness in gait, incoördination and thickness in speech went to make one consistent whole from which definite conclusions could be drawn.

The PRESIDENT briefly concluded the debate, when a vote of thanks to the openers, proposed by Colonel T. H. OPENSHAW, was unanimously carried.

HARVEIAN SOCIETY.

A MEETING of this Society was held on Nov. 13th in the Town Hall, Paddington, with Dr. R. DUDFIELD, the President, in the chair, when Dr. N. D. BARDSWELL opened a discussion on the

RESULTS OF SANATORIUM TREATMENT OF TUBERCULOSIS.

He explained that he would consider the sanatorium treatment of pulmonary tuberculosis only, and would give definite facts as to the mortality of cases after treatment. There were three important independent studies of mortality among sanatorium patients which gave results of striking similarity, an agreement which was presumptive evidence of their accuracy. These studies covered 3000 cases at the Adirondack Sanatorium in America from 1885 to 1911,[1] 1700 cases at King Edward VII. Sanatorium, Midhurst, from 1907 to 1914,[2] and 3738 cases at Brompton Hospital Sanatorium, Frimley, from 1905 to 1914.[3] In each investigation the patients were classified in the customary groups—early, moderately advanced, and advanced, and the mortality of each group during a period of some years subsequent to discharge was compared with the mortality of groups of the general population of corresponding age and sex. This method of comparing actual deaths with expected deaths was commonly employed by actuaries in mortality researches. The Adirondack patients belonged chiefly to the middle classes, the Midhurst patients to the middle classes of small means, and the Frimley patients to the so-called working classes. Speaking broadly, these figures showed that in "early" cases from these sanatoriums the mortality was six times that of the general population; in "moderately advanced" cases it was 16 times heavier, and in "advanced" cases 36 times heavier than that of the general population. These facts proved that the expectation of life of patients on discharge from a sanatorium fell far short of that of the general population. Less scientific but no less useful data were statistics of the percentage of patients alive on successive anniversaries of their discharge from a sanatorium. Dr. Bardswell's analysis of 10,000 cases treated by the public health authorities of London showed that of "early" cases 75 per cent. only were alive five or six years after leaving a sanatorium, and of moderately advanced cases 50 per cent. only survived a like period. Patients who survived the first five years had appreciably better prospects. Comparable records from Newcastle and Lancashire and Derbyshire sanatoriums, which dealt with patients of the more well-to-do classes, and from Frimley Sanatorium, which selected its cases on medical and social grounds and associated treatment with organised after-care, showed better ultimate results. In all statistics which allowed of the separate consideration of cases in which tubercle bacilli were and were not found in the sputum, a great difference was observed between the chances of survival of the two classes. In sputum negative cases after-history returns showed permanent recovery of 80 per cent. or more. If the sanatorium was judged by these cases the verdict was a flattering one. And although the criticism that many of such cases were not suffering from pulmonary tuberculosis was difficult to refute as mistakes in diagnosis certainly occurred, in Dr. Bardswell's opinion such errors were too infrequent to discredit the statistics. A more material point was our ignorance of the proportion of recoveries which sputum-negative cases would show without sanatorium treatment. Among "early" cases with tubercle bacilli in the sputum 70 per cent. or more made permanent recoveries after sanatorium treatment. Such cases formed only about 25 per cent. of the admissions to sanatoriums, a proportion which had remained constant for some years, in spite of greater attention to diagnosis. It was generally thought that every definitely tuberculous patient at some time represented the typical early case of the clinician, and should be recognised at that stage. Dr. Bardswell thought this untrue, and said that

[1] Elderton and Perry: Mortality of the Tuberculous, Dulcau and Son, 1913.
[2] Bardswell and Thompson: Medical Research Council, 1919.
[3] Hartley, Wingfield, and Thompson: After-histories of Patients Treated at Frimley Sanatorium, Medical Research Council, 1924.

undoubtedly many cases were no longer "early" by the time the diagnosis was certain and the sputum positive. The "moderately advanced" cases comprised about 50 per cent. of those dealt with by public authorities, and were the best test for any system of treatment. In a sanatorium such cases almost invariably improved, and many lost all symptoms, giving most encouraging immediate results. But within five or six years of discharge 50 per cent. of them relapsed and died, unless they had incorporated in their lives the principles of healthy living taught them in the sanatorium. Thus, for working-class patients suffering from pulmonary tuberculosis, unless in the earliest stages, the sanatorium could not be regarded as an effective cure.

Duration of Treatment as a Factor.

The average length of sanatorium treatment, Dr. Bardswell said, was only about four months. Did anyone imagine that active tuberculosis could be arrested, much less cured, in that time? The surgeon did not; he demanded 12 months or longer for treating surgical tuberculosis. It could not be doubted that prolonged sanatorium treatment would give better results, as was shown by studying cases who continued to live in sanatoriums or on sanatorium principles. However, in many cases among the industrial classes habits and conditions were so bad that even two years' treatment could not render the patients proof against relapse on return, and for such cases four months' sanatorium treatment was as effective as 12 months' and more economical. Hence, sanatorium treatment should be divided into a short course of two or three months for purposes of education for all cases, and a prolonged course up to a year or more given with much more discrimination to selected cases, who showed promise of the will and the ability to take care of themselves after discharge. The difficulties of prolonged treatment were well known, but not insurmountable. Dr. Bardswell then summarised the situation by saying that we knew pretty well what the sanatorium could and could not do. It was the means of alleviating the lot of many and of returning a large number to a long life of usefulness. If pulmonary tuberculosis was regarded as one of the most difficult to cure of the curable diseases, this was no small achievement. Something better would, of course, be welcome, but at present sanatorium treatment and the surgical methods associated with it offered the best hope to the tuberculous patient. This hope was far from the forlorn character of that offered to patients before the sanatorium was introduced.

Laryngeal Tuberculosis.

Sir STCLAIR THOMSON said he would confine himself to sanatorium treatment for tuberculosis of the larynx. In his opinion there was nothing else and nothing better. Of his own cases he could trace less than a dozen which had recovered without sanatorium treatment, whereas he had had 119 cases at Midhurst Sanatorium alone where the larynx had cicatrised well, and with few exceptions remained so. In contrast to this he quoted some expert opinions written at the end of the last century. Morell Mackenzie in 1880 wrote: "The prognosis of laryngeal phthisis is always very unfavourable. It is not certain that any case has recovered." Other authorities expressed the same opinion: "There was never any expectation of cure. The appearance of tuberculosis of the larynx was the signal of death." The subject was of great importance, since it was calculated that to-day in England and Wales about 100,000 people suffered from laryngeal tuberculosis. It was certainly the commonest specific disease of the larynx. In his youth such patients were tortured with insufflations and antiseptic powders, and he was accustomed to see the larynx as a horrible septic cavity. Nowadays after a short time in a sanatorium the larynx cleaned up in a way he had never seen in the old days. In his opinion sanatorium treatment was the first necessity; the next was rest for the voice either by whispering or better by silence. Silence was difficult at home even for the richest, but was easy in a sanatorium with other silent patients and especially trained nurses. Sir StClair Thomson then showed a number of lantern slides, giving the statistical results of such treatment. In his experience the percentage of cases of pulmonary tuberculosis in which the larynx was affected was in early cases, 4·8 per cent.; in moderately advanced cases, 18·3 per cent.; in advanced cases, 31·5 per cent. Post-mortem figures at the Brompton Hospital gave the higher figures of 48 per cent. from 1908–11 and 34 per cent. from 1911–23. The average percentage of cures of laryngeal tuberculosis by the three methods of silence, whispering, and in selected cases the galvanocautery was 24·9 per cent., or 119 cures in 477 cases. Of the 74 cases selected for the cautery 62 per cent. were cured. These figures showed that there was no such thing as an easy case of laryngeal tuberculosis. All cases were serious enough to deserve a place in Group II. In reference to Dr. Bardswell's paper, Sir StClair Thomson said that the suggestion that if a case was sputum-negative it was not tuberculosis was absurd. Marked physical signs alone were quite sufficient evidence. He had himself seen a number of cases of laryngeal tuberculosis which had never had tubercle bacilli in the sputum. Many such cases had recovered at sanatoriums, but many others had waited for treatment till their sputum was positive and then died.

Early Detection Essential.

Dr. F. J. H. COUTTS (Ministry of Health) said that the term sanatorium treatment had become almost synonymous with the residential treatment of tuberculosis irrespective of the type of institution, and was often applied to short courses of three months. In his opinion adequate sanatorium treatment had never been given to the working classes, and if it was tried the results would be as favourable as among the well-to-do. He recognised, however, that the circumstances of the worker often rendered it difficult for him to remain sufficiently long in the sanatorium. He agreed with Dr. Bardswell that neither the tuberculosis officer nor the doctor was always responsible for failure to find cases in the early stage, as very often the patients did not come for advice in time. The practice of some doctors in delaying notification until the sputum was positive was very unfortunate; it was most important to get patients while their sputum was still negative. With regard to the statistics given by Dr. Bardswell, we must not be discouraged if the expectation of life of sanatorium patients was below normal. Tuberculosis was a very serious disease, and patients who recovered from it could not expect to be as well as those who had never had it. The real question at issue was: Had a tuberculous patient a better chance of recovery with sanatorium treatment than without it? Statistics bearing on this question had been published and showed a marked advantage of sanatorium over home treatment. Dr. Coutts agreed with Dr. Bardswell that while it was valuable to give short educational courses of sanatorium treatment to as many patients as possible, prolonged courses should only be given to cases selected by the superintendents as likely to reap permanent benefit. But if the community wished to get the best possible results it should see that the conditions of life for discharged patients were such that it was possible for them to carry out sanatorium principles on return to their homes.

The Mental Effect of the Sanatorium.

Dr. W. C. FOWLER (Superintendent, Pinewood Sanatorium) said that many of the most valuable results of sanatorium treatment were education and improvement of the patients' minds, especially in the better class. Among such results were the intelligent control of cough. Patients on arrival would indulge in much useless and harmful coughing, but after a few weeks would learn to restrain this and yet clear the lungs well by a few effective coughs morning and evening. Again, they acquired a certain philosophy of life which enabled them to accept their physical limitations and cultivate mental activities

without violent physical exertion. They learnt to become practically non-infectious by the use of the sputum flask; they lost faith in milk and eggs and special diets, and learnt the fallacy of medicinal cures and the value of fresh air and a clean mouth. They grew to behave sensibly in hæmoptysis instead of being terrified, and finally they learnt from each other how to maintain cheerfulness and harmless recreations. Such results were invaluable, and could not be taught by the practitioner for lack of time.

Discussion.

Sir WILLIAM WILLCOX said he could just remember the introduction of sanatorium treatment, and there was no question that it had revolutionised the tuberculosis problem. Nowadays both physicians and the public regarded it as a hopeful disease. Formerly the diagnosis of "consumption" was equivalent in the public mind to a death sentence. With regard to early diagnosis, he thought that one of the practitioner's greatest difficulties was that patients frequently waited too long before consulting a doctor. Another factor which had struck him as an examiner in medicine was the difficulty found by students in their five crowded years of study of learning the clinical signs of early phthisis. Many of them did not know how to percuss a chest, and some could not even percuss a heart. Percussion was a fine art, and too little respect was paid to it and to clinical signs owing to the modern tendency to rely on laboratory work and X rays. Another difficulty for the practitioner was delay in securing the admission of patients to a sanatorium. By the time patients finally reached a sanatorium they might have advanced from Class I. to Class II. This, of course, depended on the accommodation available, and it was doubtful if the nation ever could have really adequate sanatorium accommodation.

Dr. R. S. WALKER (Tuberculosis Officer for Paddington) expressed his gratitude to speakers for excusing tuberculosis officers from blame for sending up advanced cases. In his experience the difficulty lay partly in patients seeking advice too late, and partly in their unwillingness to go to sanatoriums owing to the financial difficulty of providing for their families.

Dr. J. THORESBY JONES said that great progress had been made in the last 30 years in Paddington, and he thought the tuberculosis dispensary had done a great deal of good. His chief trouble was the difficulty of getting cases away in time.

Dr. A. HOPE GOSSE said he had studied a number of early cases and found that they had usually only just applied to a doctor, and therefore could not possibly have been diagnosed earlier. With regard to the difficulty of getting cases into sanatoriums, he had found very little delay in his experience at the Brompton Hospital, suitable patients securing admission to sanatoriums about three weeks after application. He had also had no difficulty in persuading them to go to sanatoriums, and thought that the hospital formed a most useful intermediate stage between the home and the sanatorium, where patients grew accustomed to the idea of treatment away from their relatives.

Dr. W. G. BENDLE (Superintendent, Paddington Hospital) said he was accustomed to some delay in securing admission to sanatoriums, and thought improvement was desirable.

Dr. H. C. PHILLIPS regretted the short duration of most sanatorium treatment, which appeared unavoidable owing to long waiting lists, but was most unfortunate, as patients returned to squalid surroundings improved but not fully cured, and so inevitably relapsed.

The PRESIDENT, after referring to reports Nos. 85 and 83 of the Medical Research Council, expressed his feeling of disappointment that the mortality of sanatorium patients after discharge was still much above that of the general public. In fact, no apparent progress had been made since sanatorium work began —possibly because sanatorium treatment had not been altered. He agreed with Dr. Bardswell that the treatment was not long enough, and that if surgical tuberculosis needed one and a half years so did phthisis. That was what we should select as our aim. With regard to delay in securing admission for patients, he had experienced very little, except in spring and summer when sanatoriums were fashionable. The real solution of the problem was the improvement of housing conditions. At present these were almost hopeless for tuberculous patients; the overcrowding was horrible, and as a result of it much of the money spent on sanatorium treatment was wasted.

Reply.

Dr. BARDSWELL, in reply, said that the situation would never improve until the social conditions and the life of the working classes were made better. With regard to delay in admission, that had been much reduced in the last two or three years, and did not now exceed two or three weeks for good cases. There was, however, a 20 per cent. seasonal flux which complicated the question. The duration of treatment could not be increased without causing an enormous waiting list, unless more money was spent and more beds provided.

LONDON ASSOCIATION OF THE MEDICAL WOMEN'S FEDERATION.

A MEETING of this Association was held at the Elizabeth Garrett Anderson Hospital on Nov. 11th, Miss M. CHADBURN, the President, being in the chair.

Dr. MORNA RAWLINS read a paper on

Complications of Gonorrhœa and Their Treatment.

She said that of all the complications of gonorrhœa she considered those of the uterine adnexa and the so-called gonococcal rheumatism were most to be dreaded. She believed that the tubes and ovaries were affected to a slight extent in a greater number of women infected with gonorrhœa than was generally realised. She proposed to confine her remarks to a few points in treatment. If the condition were seen before a pyosalpinx had developed the patient must be kept in bed and on a light diet, and long hot douches administered. It was immaterial what form of douche was used, although she herself preferred salt ʒii. to Oi. The douche must be slowly given, large in quantity, as hot as could comfortably be borne. The douches should be followed by the insertion of glycerine of ichthyol pessaries (10 per cent.). Hot fomentations to the abdomen might help to relieve pain. She had lately tried injections of sulfarsenol, recommended to her by Dr. C. Doble, with excellent results. The injections were given intramuscularly into the hip—e.g., beginning with 9 cg., increasing to 18 cg. or more daily for four or five days. Colonel L. W. Harrison had informed her that he found marked alleviation of pain following the use of diathermy, the temperature being 115° F. in the vagina and cervix. If operation had to be undertaken and both the tubes had to be removed, she urged that the uterus and the cervix also should be removed. If a conservative operation were decided on, it was her practice to blow through the tubes from the opened up abdominal ostia with a small pump.

Passing on to metastatic gonorrhœa, or so-called gonorrhœal rheumatism, she said that if a gonorrhœal case was seen early and treated effectively metastatic gonorrhœa should not occur. Joint or muscular conditions and also synovitis were usually accompanied by some cardiac disturbance which might become the most disturbing factor in the case. In all forms of metastatic gonorrhœa the treatment of the primary focus was of the utmost importance. In gonococcal arthritis Dr. Rawlins did not approve of splinting. Locally she applied lint soaked in ichthyol and glycerine over the painful part, and a pad of cotton-wool, and the whole was kept in place by a light bandage. If the patient slept better with a splint

she allowed one for the night only and not for the daytime. Absolute immobility of the part, even in an acute condition, tended to favour ankylosis. The pain deterred the patient from harmful movements. Dr. Rawlins put these patients on a course of collosol manganese, 1 c.cm. intramuscularly daily, and the relief obtained by this and by heat applied locally was striking. When the temperature fell and the pain ceased the injections were stopped and massage and passive movements started. Vaccines should only be used with the greatest caution in joint cases after the acute condition had subsided. Salicylates were useless in gonorrhœal rheumatism. Collosol sulphur was useful given orally with meals.

Discussion.

Dr. EDITH TINDAL-ROBERTSON, in her clinic, saw very few cases of established gonorrhœal arthritis, but many patients complained of pain round ankles and other joints; the pain appeared to be centred in the tendons and fibrous sheaths. Vaccines were useless; sulphur by the mouth seemed to cause improvement, but, on the whole, patient treatment of local symptoms appeared alone to alleviate these conditions. Another point to which she drew attention was the retroflexion often found in chronic cases, frequently associated with vaginal discharge. Sometimes the uterus was fixed, but more often lightly tethered. Surgeons were apt to refer back these cases for cure of discharge before attempting to correct the retroflexion, but in Dr. Tindal-Robertson's experience the discharge did not clear up until the uterus was placed in a position where free drainage was possible.

Dr. FRANCES HUXLEY said that in many chronic cases of adnexal infection the original infection had been insidious and the symptoms hardly noticed by the patient, but the tubes might, nevertheless, be blocked. She recommended medical treatment (unless there was a misplacement) if there was a chance of saving the tubes. Otherwise she practised removal of the whole tract. Salpingostomy was done in certain cases rather to encourage the patient than in the conviction that pregnancy was likely to ensue. Acute cases, if the differential diagnosis from appendicitis had been established, she also treated on medical lines.

Dr. EVA WHITE differentiated medical diathermy, which aimed at producing heat without damage to tissues, from surgical diathermy which aimed at coagulation. The former was used with success in chronic gonorrhœa. The coccus was very susceptible to even a moderate degree of heat; probably 105° F. would kill it, and the tissues could be heated to 115° F. by diathermy. One electrode should be placed in the cervix, and the other in the urethra, in the rectum, or on the abdomen. The urethra was a useful site as a sensitive indicator of heat. Another use of diathermy was as general treatment to stimulate circulation and elimination so as to facilitate penetration of drugs exhibited by the mouth. The leucodescent lamp had proved very useful in her hands and appeared to be sedative.

Dr. AGNES SAVILL said that in intractable cases local ionisation of urethra and cervix had proved of great value. At St. Bartholomew's Hospital she understood that good results in tube cases and even in arthritic conditions were being obtained by means of diathermy.

Dr. V. RUSSELL had recently treated four or five patients with tubal inflammation who had proved refractory to injections of collosol manganese with sulfarsenol (12 cg. intramuscularly) with most encouraging results.

Dr. G. SANDES described a case who had been treated for a considerable period in the out-patient department of the Lock Hospital, but had subsequently developed arthritis when actually in the hospital wards. She found that solid silver nitrate fused into a rod was very useful for infection of Skene's tubules. Sufferers from Bartholin abscess who could not lie up were conveniently treated by packing the cavity with narrow ribbon gauze impregnated with collosol silver; this seemed to prevent pockets.

Dr. LOUISA MARTINDALE asked whether Dr. Rawlins had ever tried surgical diathermy for gonorrhœal warts; she had found this very successful in a recent case.

Dr. DOROTHEA TAYLOR asked as to the relative value of films and cultures in the diagnosis of chronic cases.

Miss ESTHER RICKARDS had had success using succinate of mercury in these cases. She asked whether Dr. Rawlins approved of salpingotomy in the acute stage.

Miss A. BLOOMFIELD asked (1) what was Dr. Rawlins's criterion of cure, and (2) which cases of vaginal discharge she treated as gonorrhœa. In the speaker's experience in not more than 1 in 20 patients could the gonococcus be detected; it was her custom to treat for gonorrhœa if pus was present in the urethra or cervix.

The PRESIDENT commented on the fact that many cases of acute gonorrhœa were cases of acute abdomen and exploration was necessary for diagnosis. She generally confined her treatment in these cases to washing out the tubes and draining Douglas's pouch by the vagina. It would be interesting to ascertain in how many cases where tubes were saved pregnancy eventuated. Of the many she had saved only two pregnancies were known to have resulted.

Reply.

Dr. RAWLINS believed that diathermy had a great future in these cases, and in connexion with her clinic at Guy's Hospital she hoped soon to be able to give it an extensive trial. In answer to a question on the complement-fixation test, she herself had found it to be very satisfactory, but it was not manifest for six weeks at least after infection and did not become negative for about two months after vaccine treatment. She agreed that silver in any form was the most useful dressing for a Bartholin abscess. She treated gonorrhœal warts with the cautery, keeping the parts very dry, unless the warts were very numerous, in which case she cut off the heads with sharp curettes and then scraped off the stumps. Positive cultures and films were of great value; they were more likely to be positive if taken just after a period. If the pus stained very brightly and no other organisms were present the case was suggestive of gonorrhœa. Examination of the husband might help the decision. As to cure, six months' negative films and absence of pus was the ideal, but if only some slight degenerated pus was present, not brightly staining, the case was probably cured.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.

A CLINICAL meeting of this Society was held on Nov. 6th, Dr. G. M. DUNCAN, the President, being in the chair.

Mr. A. MITCHELL showed two children with *Spastic Paraplegia treated by Stöffel's Operation.* He pointed out that mild cases of deformity might be treated by continuous fixation followed by general rhythmic exercises, preferably to music, intermittent forcible passive movements and massage being forbidden as the spasticity was usually increased by these measures. More severe cases must be treated by operation with the aim of enabling the patients to walk. The main types of operation were three: resection of the posterior nerve-roots; section and suture of a main nerve-trunk—e.g., the sciatic; and resection of portions of certain motor nerves in order to restore the muscular balance—e.g., branches of the obturator nerve and the nerves to the gastrocnemius and the soleus, with occasional tenotomy of the adductors in addition. This third method had been employed in the cases shown, and both patients were now able to walk and to attend school.—In the discussion on these cases Mr. W. ANDERSON referred to the recent work in

Australia of Hunter and Royle, who advised division of the second, third, and fourth rami communicantes of the sympathetics. Mr. Anderson had seen four cases treated by this method, but thought them still rather spastic.

DR. W. BROWN showed a child of 23 months with *Tuberculous Peritonitis, Dactylitis, and Lupus Verrucosus* (the abdominal condition had been treated by operation followed by mercurial inunction, and was now greatly improved); and a child of 14 weeks with congenital heart disease presenting unusual features.—MR. F. K. SMITH referred to the rarity of tuberculous dactylitis in adults, and asked whether such cases generally died in childhood.—DR. G. ROSE confirmed the rarity of this condition from his examination of all school-children of 13 years in Aberdeen for the last 15 years.—DR. BROWN agreed, and said that in his experience such cases were almost always subjects of a multiple tuberculous infection and did not live long.

MR. ANDREW FOWLER showed two cases of severe *Bilateral Dupuytren's Contracture* in adult males, treated by multiple subcutaneous fasciotomy under local anæsthesia.—In the discussion MR. SMITH suggested that as the fingers were now extended the palmar fascia might be excised to prevent the possibility of recurrence.—DR. H. R. SOUPER referred to a good result obtained by Gill's operation—excision of the palmar fascia through a transverse incision and the implantation of a fat-fascial graft.—MR. ANDERSON, MR. MITCHELL, and DR. J. CRUICKSHANK raised the possibility of treatment by radium on the analogy of its success in cases of keloid.

MR. F. K. SMITH read notes and showed skiagrams of two cases: First, a man of 51 with a *Tumour of the Upper End of the Femur and a Fracture of the Femoral Neck*, as the result of a slight accident in June, 1923. Tissue removed by exploratory operation at that time was reported "ossifying chondroma." Operation was not considered advisable, and the patient did not report again till recently, when definite changes for the worse were seen on skiagraphy. This case was discussed by several members, and the general impression was that the tumour had now taken on sarcomatous changes, and that radium was the only possible method of treatment. The second case was one of a girl of 17 with *Pyuria*, and some slight tenderness and enlargement of the right kidney; full examination by clinical and bacteriological methods, ureteral catheterisation and cystoscopy, X ray and pyelograms demonstrated irregular dilatation of the right ureter, a pyonephrotic right kidney, and calcareous deposits in the mesentery; and an oval calculus in the lower end of the left ureter, with dilatation and septic changes of the left kidney pelvis. Tuberculosis had not been demonstrated.—In the discussion of this case MR. MITCHELL suggested lavage of the renal pelves.—MR. SMITH, in reply, stated that his proposed treatment was to estimate the separate functional activity of each kidney by the administration of urea and ureteric catheterisation, to remove the calculus, and then treat on medical lines. In his opinion, if the case were tuberculous there would have been signs in the bladder or at the orifices of the ureters by the time the disease in the kidneys had reached its present stage.

ULSTER MEDICAL SOCIETY.

THE opening meeting of the present session was held in the Medical Institute, Belfast, on Nov. 6th, when DR. J. SINGLETON DARLING (Lurgan), the new President, gave his inaugural address upon the

Organisation of Medical Services in Northern Ireland.

The address was looked forward to with interest, inasmuch as the Government of Northern Ireland recently appointed a Commission to consider the whole question of local government, including medical services, in Northern Ireland. Dr. Darling has been for many years active in all questions relating to medical politics, and his experience has been exceptionally wide.

Dr. Darling sketched the history of the Irish dispensary system, and was of the opinion that after 80 years' experience of this system there were now far larger numbers than were justified who continued to seek free treatment under the Medical Charities Acts. He was in favour of the extension of medical benefits under the Insurance Act or some other contributory plan, free from the taint of pauperism inherent in the present system, and held that reform on these lines, increasing the number of paying patients and diminishing the number of those who received free treatment, was more promising than a demand for the largely increased salaries which should be paid to dispensary medical officers if things remained as they are at present. Dispensary districts should be reduced in number, graded according to the services required, and remuneration should take account of the increased cost of medical education and of living and conveyance, since salaries were fixed 80 years ago. Opportunity should be made for the transference of dispensary officers from less to more desirable districts, according to merit and length of service. It was imperative that the issue of "lines" should be confined to really necessitous persons. Except in Belfast, he thought that workhouses should be abolished, as the Old Age Pension provided for the great majority of the infirm. Some of the existing workhouses might be utilised as refuges for the feeble-minded and harmless insane, or as almshouses, or as homes for a labour colony.

The Hospital System.

The present hospital system required reconstruction. It should be unified and administered under the county councils. A central hospital, fully equipped and adequately staffed, should be coördinated with as many satellite hospitals as the needs of the various populations might require. By such coördination those in charge of the smaller institutions could have the right to the services of the heads of the central hospital in consultation and their help in emergencies. The central hospital should be fully equipped, and include X ray and electrical, ophthalmic and dental departments, laboratories and pathological departments. Possession of one of the higher qualifications should be required for the officers of the central hospital, and the remuneration should be such as would attract the best type of men. Nurses should be trained at the central hospital and supplied to the affiliated institutions. Advantage should be taken of the existing hospitals, and in some counties the county infirmary would constitute a suitable central hospital. Necessitous patients should have the fullest provision for their treatment, while those able to pay should make a suitable contribution to the hospital, and the well-to-do should, in addition, pay the medical hospital reasonable fees.

Public Health Service.

There should be established, the speaker said, a properly constituted public health service under the county councils, who should have a full-time county medical officer, who would be the ultimate authority, and who would have the general oversight of the dispensary medical officers. It was a matter for consideration whether the tuberculosis service, child welfare, maternity benefit, school inspection, dental and ophthalmic dispensary should be administered under his direction. The boards of guardians should cease to have any connexion with the medical services. The county councils should have financial control, and function through committees, to which a number of outsiders representing the medical profession and the benevolent public should be coöpted. The existing nursing societies and cottage hospitals should be continued and should receive financial aid. The present methods of dealing with casuals would require a thorough overhaul, and a distinction made between the habitual and immoral casual on the one hand, and the decent industrial class, temporarily out of work, on the other hand.

Reviews and Notices of Books.

STUDIES IN HUMAN BIOLOGY.

By RAYMOND PEARL, Professor of Biometry and Vital Statistics in the School of Hygiene and Public Health and of Biology in the Medical School, Johns Hopkins University. Baltimore: Williams and Wilkins Company. 1924. Pp. 653. 88.

WITH the exception of three chapters these studies have already appeared in a wide variety of scientific journals during the last 20 years. As the author says, the only unity which can be claimed for them is in his point of view. Perhaps this is, as he suggests, the most significant kind of unity in a scientific book. In this case at least it guarantees a sustained interest to all readers who have a quantitative outlook on life. Particularly, we believe, will these essays appeal to the anthropologist. Dr. Pearl was among the first of the biologists to treat the animal man as proper material for laboratory study. His interest in this subject is never far away from any of the discussions, be they on the weight of the brain, the ratio of the sexes, vital indices, food waste and consumption, or the population problem. His contribution in the last field of a theoretical curve of population growth which fits all the actual curves derived from national statistics in 16 different countries is perhaps the most significant of all his researches. The diagram on p. 526 which shows on an arithlog grid the progress of the world's population compared with "the production of certain materials in the nineteenth century" is another astonishing example of the dramatic value of the statistical method. We may not derive from its study the same anxieties as assail Dr. Pearl, but nobody can look long at those curves of coal, and iron, and cotton climbing on a slope ten times steeper than man's own without being compelled to think. Is our civilisation doomed? If so, what will take its place? It is perhaps a mark of the true statistician, as compared with his more abundant counterfeit, that he uses his statistics to provoke argument rather than to quell it. A more provocative book than this collection of Dr. Pearl's work it would be difficult to imagine.

Under their motto "Sans tache" the publishers print a list of those of their employees whose skill and workmanship have gone to the making of the book. "The printing craftsman of to-day," they say, "is quite as much a craftsman as his predecessor. There is quite as much discrimination between poor work and good." Eight blurred pages in the copy sent to us suggest that the craftsman's vigilance is sometimes relaxed. On the whole the book is a creditable production, and the attempt of a modern large-scale manufacturing company to recover for the workers in their plant the just dignity of craftsmen is worthy not only of notice but of imitation.

INFECTIOUS DISEASES.

G. Jochmann's Lehrbuch der Infektionskrankheiten für Aerzte und Studierende. Second edition. Edited by Prof. C. HEGLER, with the assistance of Prof. B. NOCHT and Prof. E. PASCHEN. Berlin: Julius Springer. 1924. With 464 illustrations, for the most part in colour. Pp. 1077. $12.90.

THE first edition of this very complete account of the infectious diseases appeared in the autumn of 1914, and, no doubt owing to the war, does not seem to have reached this country. The author, Prof. Jochmann, lived long enough to see its success before he fell a victim to typhus, contracted, we believe, on a visit to one of the prisoner-of-war camps. His book is more comprehensive in its scope than its title might suggest. It includes diseases which in this country are usually relegated to treatises on tropical medicine, such as malaria, plague, and cholera. It contains an excellent section on the infections communicated from animals to man, and the various forms of food poisoning also receive ample consideration. Among the conditions which we are not yet quite accustomed to meet with in books on infectious diseases are rheumatic fever, herpes, and erythema nodosum. On the other hand, acute lobar pneumonia, which might be regarded as having a greater claim for inclusion, has been omitted. It is true that general pneumococcal infection is described in detail, as are also gonococcal and other septicæmias, including miliary tuberculosis. This section of the book, indeed, dealing with blood infections, is particularly full and instructive, and contains admirable articles on the enteric group of fevers, relapsing fever, and puerperal septicæmia. It is, however, not a little disconcerting to find general infection with the meningococcus or the anthrax bacillus discussed several hundred pages away from the more ordinary types of the diseases in question.

The production of this edition has been entrusted to the capable hands of Prof. C. Hegler, who has had the assistance of Profs. B. Nocht and E. Paschen. The book has been brought well up to date, and chapters on Weil's disease, herpes, and encephalitis have been added. As regards the latter, all the recent work on the identity of its virus with that of herpes is very fully discussed. The experience gained by the editor in the Near East during the war must have been of the greatest advantage to him in the revision of the articles on infectious diseases likely to be met with on military service. Dr. Jochmann believed that lengthy descriptions of various conditions can be considerably curtailed, or even dispensed with, provided that liberal use is made of illustrations and temperature charts. There are no less than 464 of these in the text, and almost without exception they are both instructive and conveniently placed. Those in colour are, on the whole, remarkably good, though it must be confessed that the exact shades of rashes seem often unattainable. Particularly successful are the illustrations showing cancrum oris, the Schulz-Charlton reaction, and the various septic and diphtheritic conditions of the throat. Dr. Jochmann was the first to prepare a serum for cerebro-spinal fever and to make use of intrathecal administration in that disease; from all points of view, epidemiological, pathological, or clinical, the article on this subject is a good one, but it is unfortunate that the temperature charts illustrating treatment should suggest that serum can be satisfactorily given at 48-hour intervals. The general opinion of authorities is that daily injections are necessary for at least four days, a procedure reserved by the author for severe cases.

The revision of the sections on variola, varicella, and vaccination, the latter especially good and well illustrated, has been undertaken by Prof. Paschen and gives but little ground for criticism. It is curious, however, that in the discussion on differential diagnosis in the chicken-pox chapter no stress is laid upon the distribution of the eruption. This omission is to some extent rectified in the corresponding section on small-pox, but even there the author is content to say that the one eruption is centrifugal and the other centripetal. It is evident that on the continent the views of the late Dr. Ricketts have not received the attention which they deserve, although his writings and those of Dr. W. McC. Wanklyn are mentioned in the short bibliography at the end of the chapter. The article on diphtheria maintains the same high standard as the others. It is interesting to compare the practice of different countries as regards serum dosage, and we note that Dr. Jochmann, while employing somewhat larger amounts of antitoxin than Dr. Baginsky of Berlin, is content with what are considered moderate doses in this country. He gives 3000–4000 units for mild cases, 4000–8000 for moderate, and 8000–9000 for severe, repeating next day if necessary. He approves of intravenous administration for the worst cases. His only indication for what we would consider large doses—e.g., 40,000 units or more—appears to be severe post-diphtheritic paralysis, which many of us would maintain is, when once established, not influenced by the use of serum at all. On the whole, the information given about the Schick reaction and immunisation is scanty and disappointing, and it appears that little work on the subject has been done

in Germany. The editor, however, states that he has found difficulty in obtaining the literature relating to the extensive use of the test in America.

The book makes no pretensions to being a work of reference, and unusual and rare complications are often omitted. It appears to us better suited for the practitioner than the student, as it is unnecessarily large for the latter. Those especially concerned with fever work will find much to interest them, and can hardly fail to obtain some useful hints in treatment and diagnosis.

DRINK JOTTINGS.

By MAURICE C. HIME, M.A., LL.D., Barrister-at-Law. Dublin: Hodges, Figgis & Co. 1924. Pp. 84. 1*s*.

WE have previously reviewed two of Dr. Hime's books, "Wild Oats: A Sermon in Rhyme," in 1903, and "Schoolboys' Special Immorality" in 1899, and we commended their earnest and strongly-minded eloquence. Now, nearing the age of 84 and in retirement in County Donegal, Dr. Hime indefatigably continues his self-appointed task of preaching to the young, and he has collected several articles contributed to the local press and added some new chapters to form a little volume which preaches personal abstinence, and the national prohibition of alcohol as a beverage. Not even the most ardent "anti" could justly accuse the author of this contribution to the literature of prohibition of being a fanatic. His arguments are clear and decisive; he fastens on the weak spots in the anti-prohibitionists' armour. Why this tremendous propaganda against prohibition? Is it disinterested effort in the cause of so-called liberty? What is a moderate drinker? These are some of the questions which he raises directly or by implication, and the non-abstainer who fears that he will never be able to break his habit may take encouragement from the fact that Dr. Hime himself had taken no side in the controversy and had been a drinker of alcohol until a short time ago when, "better late than never," as he heads the chapter containing his "confession," he broke "so easily through a fifty-year-old habit" and took water for his dinner. Even those who disagree with the author will find this an interesting book.

JUNIOR RED CROSS MANUALS.

British Red Cross Society. *Junior First-Aid Manual.* No. 1. By C. MAX PAGE, D.S.O., M.B., M.S., F.R.C.S. Pp. 95. *Junior Nursing Manual.* No. 2. By BEATRICE AGAR. Pp. 103. *Junior Health Manual.* No. 3. By BEATRICE AGAR. Pp. 100. London: Cassell and Co., Ltd. 1924. 1*s*. 6*d*. each volume.

THE Junior Red Cross is a movement which originated almost simultaneously eight years ago in Canada and Australia and is now world-wide in its extent. The Junior section of the British Red Cross is endeavouring as part of its programme to promote health among the school-children of this country, and it has recently produced three books along the lines of the well-known manuals of the "Senior" Red Cross Society. Mr. Max Page has dealt with the difficult task of presenting first-aid to children as a practical subject based on definite theoretical principles. The first section of his manual is devoted to an account of anatomy and physiology, written in a clear and lucid manner, and forms an admirable background to the second half of the volume, which deals very clearly with first-aid measures for the usual emergencies. The treatment advised is quite in accord with the changes in medical opinion which have taken place within recent years, and we fully agree with the statement of Sir George H. Makins, who has written a foreword to No. 1 of the series: Mr. Page "has produced a handy manual embracing succinctly the wide subject he has had to deal with." In No. 2 of this series the details of home nursing are described also with due regard to the theoretical aspect of the subject. The "good nurse" and her daily duties are dealt with in a restrained manner, and special chapters contain simple accounts of surgical nursing, the nursing of children, and bandaging. In the manual devoted to "Health," a more difficult task has faced the author, for good health must be presented to children as a positive virtue to be striven after and not as a dull and uninteresting alternative to disease. This book gets over a real difficulty effectively. Personal health, the healthy house, food and health, clothing, all receive attention, and there are also chapters on "A Healthy Baby" and "A Healthy Mind." That health is not purely an individual affair but one which concerns our neighbours as much as ourselves, is also insisted upon, and a chapter on "Public Health" has been wisely added. Each manual contains a suitable syllabus for lectures on the subject with which it deals, and these volumes will therefore prove useful both as text-books for members of the Junior Red Cross and other organisations for promoting health among children, and also as guides for those who have to give instruction in these subjects.

PHYSIOLOGICAL PRINCIPLES IN TREATMENT.

Fifth edition. By W. LANGDON BROWN, M.A., M.D. Cantab., F.R.C.P., Physician to St. Bartholomew's Hospital; Consulting Physician to the Metropolitan Hospital, &c. London: Baillière, Tindall and Cox. 1924. Pp. 511. 10*s*. 6*d*.

THIS is the second revised edition of Dr. Langdon Brown's book to appear since the war, and the new features which now appear should further increase its popularity. Two new chapters on the work of the liver and on asthma have been added, and new sections deal with insulin, uræmia, and fractional test-meals. It is somewhat surprising that the author in his chapter on the stomach makes no reference to the important physiological researches of A. J. Carlson, and his close adherence to the hormone theory of gastric secretion expressed on pages 49 and 61 appears to require some modification in view of recent work. Dr. Langdon Brown's learned pages are, as ever, enlivened by an epigrammatic pen, "The method of going about with a syringe full of insulin in one hand and a stick of barley sugar in the other carries its own condemnation with it," being one of many rewards for readers of this little book.

JOURNALS.

QUARTERLY JOURNAL OF MEDICINE.—The October number contains the following articles: The Effect of Iodine on Hyperthyroidism in Man, by S. J. Cowell and E. Mellanby. It has been shown that hyperplasia of the thyroid is always associated with a diminished iodine content in the gland, whether or not symptoms of hyperthyroidism are present. The relationship of the intake of iodine to metabolism in general has not yet been determined. The administration of iodine in minute doses in the form of cod-liver oil or of potassium iodide to patients suffering from exophthalmic goitre usually produces some alleviation of symptoms, whereas larger doses of iodides are almost invariably harmful. Eight cases of hyperthyroidism were treated by small doses of potassium iodide. They all showed signs of improvement, such as slowing of the pulse-rate, diminution of nervous excitability and a lowering of the basal metabolic rate. Treatment by iodides is therefore recommended as an adjunct to other forms of medical treatment in cases of hyperthyroidism and also as a preliminary measure to any surgical procedure.—A Clinical Study of van den Bergh's Test in Jaundice, by C. H. Andrewes. Observations are here recorded upon the value of the van den Bergh test which are based on a series of 184 cases. The author finds that the test enables a diagnosis to be made between a frankly hæmolytic and a frankly obstructive jaundice, but that it does not serve to differentiate icterus due to liver cell damage from other types of jaundice. The quantitative estimation of blood bilirubin allows the distinction to be drawn between a pernicious and

a secondary anæmia.—The Relation between the Basal Metabolic Rate and the Pulse-pressure in Conditions of Disturbed Thyroid Function, by H. Whitridge Davies and John Eason. It was shown in 1922 by Read that the pulse-rate and pulse-pressure in cases of hyperthyroidism vary with the basal metabolic rate, and a formula was devised for calculating basal metabolism from these pulse records. The authors have made an extended series of observations on the pulse-pressure and basal metabolic rate in cases of hyperthyroidism. They find that an increase in the former is characteristic, whereas the pulse-pressure falls in uncomplicated hypothyroidism. The pulse-pressure and basal metabolism vary in the same direction, and determinations of the former afford a simple and reliable method of checking the accuracy of the latter.—Some Factors Concerned in the Ætiology of Tetany in Children, by Grace H. Anderson and Stanley Graham. A biochemical investigation was carried out on a series of cases of tetany in infants. The calcium content of the blood serum is always diminished in active tetany; in latent disease, however, it is not always lowered. Signs of tetany were found to disappear if acidosis be produced apart from any rise in the calcium content.—On the Pathology of Nephritis associated with Œdema, as illustrated by six cases, by S. C. Dyke. It has been suggested that in all cases of "primary chronic interstitial nephritis" there has been an antecedent but unnoticed attack of acute nephritis. The author records a series of six fatal cases of "chronic parenchymatous nephritis," all somewhat acute at the onset, which, he states, had not death intervened, might have conformed to the chronic interstitial type. Clinically they were all characterised by œdema, and histologically the kidneys showed degeneration of tubular epithelium, some glomerular changes, and deposition of cholesterol esters. Some of these cases showed a gradual retention of blood-urea. This is expressed as milligrammes per cent., which is, presumably, an error for milligrammes per 100 c.cm. It is suggested that those showing nitrogen retention would tend to pass into a state of secondarily contracted kidney. The relationship of an increase in blood cholesterol, the deposition of cholesterol-esters in the kidney, and the presence of œdema is also discussed. A series of three plates is included illustrating the microscopical appearances of the kidneys.—Spontaneous Subarachnoid Hæmorrhage, by C. P. Symonds. The article opens with a review of the literature dealing with spontaneous (non-traumatic) subarachnoid hæmorrhage. The possible ways by which blood may gain access to the subarachnoid space are discussed. The clinical manifestations of the disease are then described, and an account given of three new cases which have come under the author's observation. A brief description follows of the differential diagnosis and treatment. The article is illustrated by a coloured plate showing a small aneurysm situated at the bifurcation of the anterior cerebral artery which ruptured, causing subarachnoid hæmorrhage. The patient in whom this occurred was 24 years of age, the other cerebral vessels were healthy and no sign of disease was discovered elsewhere.—Cholesterol in the Blood in Cases of Gall-stones, by J. M. H. Campbell. Chauffard has warmly advocated the view that gall-stones owe their origin to a hypercholesterræmia, with consèquent ncreased excretion of cholesterin in the bile, rather than to the presence of infection in the gall-bladder. Discordant opinions, however, prevail as to the amount of cholesterin in the blood in cholelithiasis. The author investigated 52 cases, and found that there is no increase in the amount of blood cholesterol in the presence of gall-stones, provided that the patient is not jaundiced. In some of the cases cholecystitis was actually present, which tends to overcome the possible objection to the value of the findings, on the ground that the observations might have been carried out at a time when active pathological changes leading to the production of gall-stones were over.

Reports and Analytical Records.

INNOXA.

(LES LABORATOIRES INNOXA, AGENTS, 15, DOVER-STREET, LONDON, W. 1.)

WE have received an assortment of dermatological preparations with the common title Innoxa, consisting of a lotion, a cream, a *mousse*, and an unguent, with special directions for their employment rather as toilet preparations than as pharmaceutical substances. The formulæ have been suggested by Dr. Debat, late head of the Dermatological Laboratory of the Hospital St. Antoine in Paris, with the object of providing practitioners and dermatologists with toilet products which can be recommended with confidence. Innoxa Milk is made up on a basis of lanolin and cocoa-butter emulsion suspended in distilled rose-water. Innoxa Cold Cream contains in addition pure wax. Innoxa Powder with a basis of rice-starch, talc, and zinc oxide is intended to replace powders which tend to dry and irritate the skin. All the preparations are pleasant in substance and suitable for application in the methods which are indicated by their titles, while such perfume as they have is delicate and unobtrusive.

KALZANA.

(THERAPEUTIC PRODUCTS, LTD., NAPIER HOUSE, 24/27 HIGH HOLBORN, W.C. 1.)

In connexion with this preparation, a product of A. Wulfing and Co., of Amsterdam, a correspondent calls our attention to a misprint which we have already corrected, but as it appears to have caused some confusion in the minds of our readers it may be useful again to point out that the preparation is a double salt of calcium lactate and sodium lactate to which are added palatable adjuvants. Good reports have been received of its use as an addition to the diet of expectant and nursing mothers and of rapidly growing children, in the treatment of functional menorrhagia and in hæmorrhage, and all conditions where the promotion of calcium retention is indicated. It should prove a useful help to both physician and surgeon. As we before pointed out, to obtain the benefits of the drug for purposes of ordinary nutrition one or two tablets can be taken daily, but the same dose or three tablets can be taken three times a day where a special addition of lime to the diet is required. Children may take one or two tablets daily. They are best taken after meals either with a little water or milk or simply masticated. The preparation is put up in bottles of 90 tablets.

THE "STERAID" GAUZE CONTAINER.

(ROBERT BAILEY AND SON, LTD., MARRIOT STREET MILLS, STOCKPORT.)

We have received a sample of the "Steraid" series of absorbent and medicated gauzes packed in a patent dust-proof container which has considerable merit. The container consists of two cylindrical cardboard tubes enclosed at one end, which slide one within the other, thus forming a box. The dressing in a roll is contained in the inner cylinder and there is a slot running the length of both cylinders which, when in approximation, allows the dressing to be drawn out. By rotating the outer cylinder the outer slot passes over the inner slot and the dressing is enclosed in what is for practical purposes an air-tight compartment, while a reverse turn of the outer cylinder brings the dressing to view. The advantages of this arrangement are that the dressing is not exposed to light or air and is not handled, save that portion which is required for use. This invention is conducive to economy both of time and money, is simple to use, and certainly, from an hygienic point of view, should receive the attention of everyone who has to handle and use surgical dressings.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 22, 1924.

THE STATUS OF MIDWIFERY.

In times which many can remember the status of midwifery was thoroughly unsatisfactory. Medical students, it is roundly admitted, were educated only in the most desultory manner in the principles of the science and only by haphazard methods in the practice, while the various educational boards, the older universities defaulting as much as or more than the various corporations, did not press for a high standard from examinees: further, the general conduct of the clinical and domestic side of a superlatively important branch of medicine was not creditable to the practitioners, and obstetrics as carried on by midwives was an unregistered vocation. The last 50 years have seen a great change, and while at the beginning of this period progress along scientific lines and emancipation from ancient shackles took place but gradually, the days we now live in have seen remarkable improvements. They need not be enumerated for they jump to the eye. In the Lloyd Roberts Lecture, given in the opening pages of this issue, Dr. HERBERT SPENCER takes as his subject the Renaissance of Midwifery, and in a fascinating oration there will be found a history of the early phases of the science and art of midwifery, showing alike what scientific foundation the practitioners of post-Listerian days had to build on, and what ancient lore, tradition, or art they had to respect or discard. Anyone who reads this lecture and also a report, which appeared in THE LANCET last week (p. 1011), of the interesting debate which took place on Nov. 6th at the Royal Society of Medicine, will have before him an illuminating picture of the fundamental revolution which has occurred within the last generation, and will see also what a number of problems, clinical, bacteriological, and administrative, remain for solution.

The debate at the Royal Society of Medicine, held between the appropriate Sections of that Society and the Society of Medical Officers of Health, had for its general subject the notification of puerperal sepsis, words which would have had no meaning for those to whom sepsis was an absolute mystery and prevention an undreamt of ideal—namely, the exponents of midwifery before the days of LISTER and SEMMELWEISS. To-day the practice of midwifery means, above all things, the avoidance of sepsis, especially by the early recognition of abnormal conditions. Notification of puerperal sepsis, as Dr. J. S. FAIRBAIRN pointed out in opening the discussion, becomes necessary when the first line of defence—prevention—has been breached; the next line of defence to be held being the early detection and elimination of disease, which is only possible if notification is employed generously towards suspicious cases. The immediate notification of all cases where legitimate doubt arises Dr. FAIRBAIRN would allow to be difficult, if only because it would involve amendment of Acts of Parliament; but he made the valuable suggestion that obstetric consultations and bacteriological examinations might be arranged in local areas, and a certain amount of hospital accommodation for observation, nursing, and treatment be provided in connexion with such movements. This is a suggestion which, we hope, will bear fruit, for nothing would be more likely to improve the status of midwifery. If practitioners in any area had a centre where, upon voluntary notification of all cases of fever in childbed, scientific assistance and, in suitable cases, institutional help would be forthcoming, the advantages placed at the disposal of both patient and medical adviser would be difficult to exaggerate. In the debate which followed Dr. FAIRBAIRN's opening the position of notification of puerperal fever, as it exists to-day, was severely criticised both on the grounds of its range of employment and its practical results, while the need for a better supervision of the midwife was insisted upon, though with due recognition that the Midwives Act had constituted a great advance. Of this there can be no doubt, but if, as Dr. R. A. LYSTER contended, the level of midwifery practice could be substantially raised by efficient supervision and inspection, the value of more efficient notification would become immediately obvious. At the General Congress of Obstetrics and Gynæcology to be held next year at the Royal Society of Medicine, Dr. RUSSELL ANDREWS will preside over a reunion of the various British and Irish societies devoted to the subjects of gynæcology and obstetrics, when one of the subjects set for discussion is the treatment of puerperal sepsis. To this discussion two whole sessions will be devoted, and it will be introduced by reports from two special committees in London and the North of England, when the grave interest of the matter will secure widespread attention for the conclusions of the congress. From all that has been written above it will be seen that now at least the medical profession is alive to the supreme importance of a scientific service of midwifery, and the status of work along all its lines is thereby indefinitely raised.

The importance of regular watch over pregnancy is implied in the Midwives Acts, 1902 and 1918, and the conditions in which medical help must be sent for by the registered midwife are set out in the rules framed by the Central Midwives Board; any improvement in the system of notification of puerperal fever would be in consonance with the whole meaning of the Acts. In all cases of illness of the patient or child or of any abnormality occurring during pregnancy, labour, or lying-in, the registered midwife must call to her assistance a registered medical practitioner, and the conditions referred to are broadly outlined in the rules of the Central Midwives Board. A large proportion of the midwifery practice of the country reaches the medical profession through the medium of the midwife, that proportion including, of course, most of the difficult and abnormal labours. We are publishing this week as a Special Supplement to THE LANCET a treatise on the modern methods employed in the indicated circumstances, written by a group of well-known authorities. The various authors treat in this work of things as they are, in order that the advice given may be immediately useful; but the underlying lesson of the whole work is that things as they are too often represent things as they should not be, and as they will not be when the preventive side of midwifery comes more fully into realisation.

THE HEALTH OF THE SCHOOL CHILD.[1]

THE Annual Report of the Chief Medical Officer to the Board of Education for the year 1923, which makes its appearance this week, should be widely

[1] Annual Report of the Chief Medical Officer of the Board of Education for 1923. H.M. Stationery Office, Adastral House, Kingsway, London, W.C. 2; or 120, George-street, Edinburgh; or through any bookseller. 1924. Pp. 194. 2s.

read by the public as well as by the medical profession, for unless, in addition to details concerning the prevalence of pathological conditions or the progress of sanitary developments, the general pattern of the school medical service is understood, public coöperation will not be intelligently directed. And the goodwill as well as the practical help of the public is necessary to-day in all the circumstances, preventive and curative, domestic and institutional, of any medical service. The Report deals with an interesting year, for during 1923 the restrictions following the need for national economy were becoming less stringent. Consequently authorities were permitted and even encouraged to consider certain extensions of their programmes where the wisdom of the proposed courses was obvious; and although the result of such increased activities as have occurred cannot yet be recorded, there is evidence in the Report that what was done in 1923, and is being done in 1924, will make satisfactory reading in subsequent documents. With a candour that is commendable in the head of a public service, Sir GEORGE NEWMAN admits that the close scrutiny of the expenditure which was compulsory during the years immediately following the war, even while the limits imposed were vexatious, may have had a valuable influence; it has resulted probably in an increased attention to the matters where special economy could not be expected, and this has made for general efficiency.

To the two main conditions affecting school health *en masse*—namely, the particular physical state of the children and their sanitary environment at school—Sir GEORGE NEWMAN adds a third, for he speaks strongly of the moral influence that insanitation and unclean premises, defective light and insufficient ventilation have on the young. Not only do such things prejudice the health of the children, but they are deprived of the advantages of proper hygienic models and lose a valuable side of their training. There is no doubt that in many of the older schools, especially in country districts, the premises and furniture have declined from a tolerable health standard. This is a point which has often been quoted in our columns from the reports of school medical officers, and in Sir GEORGE NEWMAN'S Report it receives similar notice. Now when children have to spend their school hours in cold class-rooms, ill-lighted and wrongly ventilated, using unsuitable desks and unprovided with proper sanitary conveniences, the lessons to be learned from medical inspection become distorted, for the school itself may be a source, or at any rate the fomenter, of the mischief, the care of the officials being to some extent expended in the counteraction of mischief of official origin. It is of the first importance that medical inspection should be regular, thorough, and inclusive, and that common sources of defects should be ascertained; this should be followed by treatment, including as far as possible the provision of wholesome surroundings. During 1923 the specific requirements of the Board of Education as to medical inspection of children in elementary schools led to a routine medical inspection of 1,754,919 children, while a further 739,390 children were examined as specials, not being normally due for routine medical inspection, but recommended for the procedure by the school authorities upon the ground of particular physical or mental defect. There was a fall during the year in the number of children inspected as entrants, but this it appears can be attributed not only to leakage following on administrative defect, or—which is the same thing—a misunderstanding of official instructions, but also to the fall in the number of births registered in 1918-19. But one of the most satisfactory passages in the Report testifies to the steady and general increase in the number of parents who attend at the routine medical examinations, while refusal by the parents to permit their children to be medically inspected has dwindled to negligible proportions, and is to-day instigated almost always by a desire to conceal neglect. "Every year I am impressed," says Sir GEORGE NEWMAN, "with the value and importance of the coöperation of teachers in the physical care of the school child," and everyone with experience as medical officer, as manager, or, as member of a care committee, knows that more than half the value of school inspections is due to coöperation between the parents and teachers in smoothing the way of the medical officer.

The findings of medical inspection for the year, so far as the figures allow them to be recorded, tell rather a sad tale at first sight, but closer consideration shows that the majority of the defects are such as do not endanger life, and do not even impair a general physique, though their neglect may lead to both these serious issues. A table based on the returns from London and 24 large representative areas shows the incidence in various groups of defects among 630,665 children of school age in 1923, when, as might be expected, by far the largest number of defects occur either under the heading of defective vision or under that of nose and throat disease, leaving dental troubles aside, the incidence of defect per thousand of the children inspected being 62 in the case of vision and 43 in the case of nose and throat. The early ascertainment of defective vision is now being fully promoted by school authorities, and to-day out of 317 local education authorities only 14 remain which make no provision for the diagnosis and correction of visual defects. Another table in the Report shows the enormous volume of work done by these authorities, but shows also that a considerable number of children recommended by the ophthalmologist for spectacles do not obtain them or do not wear them. There were, in fact, during 1923, 135,269 children who were ordered spectacles, while 15,238 failed to obtain them; this is a serious leakage. Teachers are here able to render valuable assistance to the school medical officer by encouraging children to use their glasses, and we may hope that the popular prejudice against the use of glasses will soon die out.

We hope to return to some of the many interesting questions in general and special pathology, as well as in administration, which this Report introduces, and in the meantime recommend its perusal to all our readers.

MEASLES IN FRANCE.

LOSS of life from measles is being closely scrutinised in France, where two apparently self-contradictory statements in regard to it are current:—

(1) Measles is less often fatal than scarlatina, or whooping-cough, or diphtheria.

(2) Measles alone accounts for more deaths than do scarlatina, whooping-cough, and diphtheria combined.

These propositions are certainly *not* true of this country in non-epidemic times, but the statistics and other data in support of them are worth quoting in extenso because they afford valuable clues to prevention and treatment. According to Dr. Ruggles George, of Toronto, the deaths from diphtheria in 1921 in the Canadian registration area numbered 1297. In the same period and area the deaths from scarlatina numbered 410, from whooping-cough 626, and from measles only 297. Again, in the United States registration area in 1921 the deaths from diphtheria numbered 15,683, from scarlatina 4718,

from whooping-cough 8070, and from measles only 3790. Many other statistics could be quoted in support of the first statement as it appears above. In support of the second statement, it may be pointed out that during 1923 the death-rate per 100,000 persons in Paris was 0·3 for scarlatina, 0·6 for whooping-cough, 0·5 for diphtheria, and 1·6 for measles. In the *Annales de Médecine* for October there is a paper by Prof. R. Debré and Dr. P. Joannon, whose indictment of measles as a most malignant disease is supported by a wealth of statistical evidence. For example, in the period 1911–13 the annual mortality for every 10,000 infants under the age of 1 year in French towns with a population of more than 30,000 inhabitants was 31·4 from measles. The corresponding figure for whooping-cough was 20·2, and for scarlatina, whooping-cough, and diphtheria combined it was 25·9. It is probable that the actual mortality from measles is even higher than these figures would suggest, for when measles is unassociated with an eruption, the fatal capillary bronchitis or broncho-pneumonia to which it gives rise is liable to be notified as the primary cause of death. And when the comparative importance of diphtheria and measles as causes of deaths among hospital cases is studied, it is well to remember that the two diseases may coexist in the same patient and that diphtheria may not infrequently be given an unjust share of the blame.

Why, it may well be asked, is the comparative mortality from measles so much greater in France than in Canada, in large than in small French towns, and in the poor than in the rich quarters of Paris? This last-named difference is most striking. According to Prof. Debré and Dr. Joannon, the mortality from measles among children under the age of 6 years is four times greater in the three poorest than in the two richest arrondissements. And most of the few deaths in these rich quarters of the town occur in working-class families. As the authors point out, there are probably many factors accounting for these extraordinary differences which would at first sight suggest that we are dealing with two different diseases: one a rapidly fatal disease among slum children, the other a mild and transitory infection in children living in the country, the offspring of well-to-do parents. One factor no doubt is dominant: the slum child is more readily killed by measles than the country child because slum conditions favour development of the disease at an earlier age when the defences of the body are still very incomplete. It is significant in this connexion that of the 6266 deaths from measles in childhood in Paris in the period 1904–13 as many as 5132 occurred in children under the age of 3 years: there were only 488 deaths from measles among children over the age of 5. Another factor of sinister importance may be the hospitalisation of poor infants in Paris. Here, as elsewhere, there can be no doubt that measles is often contracted in hospitals to which infants and children have been brought for some other complaint. Again, the infant admitted to hospital for measles is liable to contract in hospital such diseases as diphtheria and whooping-cough, combinations with a very high mortality-rate. In connexion with the hospital problem there is also the delicate question as to the quality of the nursing and effectiveness of the isolation provided. These and other considerations bring us to another point: might it not be better to distribute the sick infants of the poor in small, carefully selected, and well-aired homes than in large crèches where opportunities for infection are inevitably great? In this connexion Prof. Debré and Dr. Joannon point out that during 1922 as many as 37 of the 115 crèches in the Paris area had to close on account of measles. Unless Schick and Dick testing and immunising come widely into vogue, the time may not be far distant when we may come to look back on the large hospitals for infants suffering from measles and other infectious diseases in the same light that we see the maternity hospitals belonging to the period when puerperal fever was an uncontrolled and uncontrollable disease.

Happily, however, there is a new factor calculated to arrest this flight of children from the hospital and to prevent our regarding it as a centre where the virus of measles becomes exceptionally malignant by frequent passage, massive infection, and secondary infections. This factor is the prophylaxis or abortion of measles by the injection of the serum of convalescents. It is many years since Nicolle and Conseil carried out their pioneer work in this field, in which the advances made during the past two years have proved most fruitful. In a paper by Dr. J. Paraf in the same number of *Annales de Médecine*, to which we have already referred, an account is given of the use for the past two years of this procedure, which has proved to be as innocuous as effective. In a children's ward he has never had a case of measles develop in spite of exposure to infection, and he has only one unfavourable comment to make on this treatment. The immunity conferred, sufficient though it may be to protect the child while in hospital, is so brief that it may be necessary to repeat an injection more than once during the same year. To get over this difficulty it has been suggested that the injections should be deferred till after the fifth day of the incubation period, so that instead of effecting a transitory passive immunity an attempt should be made to develop active immunity by modifying, but not completely aborting, the infection. Dr. Paraf does not express great enthusiasm for this procedure, which, while it may have a useful place in a large epidemic, adds to the immediate risks for the individual case, and which also is calculated to favour rather than prevent the spread of the infection to other persons. It is obvious, therefore, that the last word has not yet been spoken with regard to this procedure which is already extensively adopted in France, Germany, and the United States. But it promises to bring little short of a revolution in our conduct of hospitals for infants whom we have not hitherto been able to shield from one of the most infectious and deadly diseases of early childhood.

THE NEED FOR EXTENDED SICKNESS INSURANCE.

SPEAKING at a meeting of the Insurance Institute of London on Nov. 17th Lord Dawson emphasised the need for extended sickness insurance, especially among the middle classes. The present position in this country was, he said, that the rich on the one hand could provide for themselves, while the labouring classes were provided for by the National Health Insurance Acts. The middle-class family—that is, where the breadwinner's income did not exceed £1200 a year—was often cramped to a quite unjustifiable degree by the incidence of sickness. The growth of knowledge in medicine had brought with it increased cost in medical treatment, and to secure the very best that science could offer for the treatment of disease was becoming a burden too great for the middle-class home where the lives and prospects of the healthy members might be sacrificed to the consideration of one ailing relative. The solution of the problem, Lord Dawson thought, lay in providing the treatment of sickness outside the home, as was done in America and the Dominions, and if we were to avoid the pitfall of nationalisation of medicine, which would sweep away the most valuable factor in curative work—namely, the personal relationship between practitioner and patient, some adequate scheme of health insurance for the middle classes must be evolved. What was needed was organisation, and he thought that the lead for adequate medical treatment might be taken by local communities instituting health centres which would be available for their citizens on payment according to their capabilities. This had already been attempted by the city of Bath. Lord Dawson thought that the formation of health societies in local communities might go far to solve the big problem of administration and inspection to prevent abuses in such schemes. He was of the opinion that an insurance

company—which was an institution run on business lines—might make an experiment with a well-thought-out scheme in some secluded local community. In discussing Lord Dawson's paper, Sir Alfred Watson pointed out the difficulty from the commercial point of view for an insurance company in fixing satisfactory premiums to secure the cost of medical benefits in a family; for the increasing cost, following continued medical improvements, opened up the possibility of future loss. But in some form or another we trust that Lord Dawson's suggestion may take concrete shape.

Annotations.

"Ne quid nimis."

SMOKE ABATEMENT.

THERE is general agreement that a smoke-polluted atmosphere not only interferes with the amenities of life but also affects the health of the community. In summarising the annual health reports of the various districts we have frequently drawn attention to the higher death-rates from respiratory diseases, when town is compared with country and when a dirty-aired town is compared with a clean-aired town. Estimates are put forward from time to time to show that most of the smoke pollution in industrial towns, perhaps two-thirds or three-quarters, is caused by domestic fires. It is somewhat difficult to reconcile these estimates with the smoke-palls and gloom of, say, the manufacturing towns of Lancashire and the West Riding as compared with the comparatively clean air of towns such as Derby, Leicester, Nottingham, and Swindon. But perhaps it is waste of time to endeavour to apportion the blame accurately between domestic and industrial smoke, for both are gross offenders. It is hardly questioned now that, except for a few metallurgical processes, industrial smoke is unnecessary. Chimneys serving boiler-furnaces where proper appliances and adequate plant are provided need not offend if due care is exercised by the stokers. Thus, with a trifling alteration in the law, industrial smoke might be a thing of the past if local authorities, stimulated by the Ministry of Health and backed by an enlightened public opinion, would but do their duty. At the recent conference in Manchester, promoted by the Smoke Abatement League, every phase of the question was discussed, and the proposition was laid down that in order to get the public to use a smokeless fuel the price of such fuel must not exceed that of coal. It was further shown that progress was being made towards the production of such a smokeless fuel for domestic use. Dr. H. Osborne, medical officer of health for Salford, makes a valuable contribution to the whole subject in his annual report for 1923. He emphasises the working man's liking for the cheerful blaze of the open fire, and states its advantages over the gas-fire on health grounds as a promoter of ventilation and a useful destructor for house refuse. His remedy for domestic smoke is therefore the prohibition of the burning of raw coal in open grates and the substitution of a smokeless fuel. One such product he has recently tested. It gave a beautiful glowing fire, burned away without any attention to a soft powdery ash, and gave off no smoke. He does not mention, however, how this fuel is likely to compare in price with raw coal. Dr. Osborne mentions the health value of the visible rays from an open fire, but presumably the gas fire would retain this value. Gas has the advantage over other fuels in its comparative freedom from sulphur products. He further states that the gas-fire is a poor ventilator, that there is a much larger proportion of carbonic oxide in its flue gases, and that the danger of down-draught bringing carbon monoxide into the room is considerable. We recognise that there is much carelessness in the fixing of gas fittings. They are frequently fixed without proper flues, and no adequate attention is given to the important matter of testing the gas fittings for leaks. Every gas company should in return for its monopoly have placed upon it the statutory obligation to test for leaks on request and in return for a reasonable fee. As was pointed out frequently in the recent conference at Manchester, the first step in securing cleaner air is to convince the public that domestic smoke is unnecessary, and that the air of our towns might be nearly as clean as the air of the country. When a powerful educated public opinion has been created, we feel sure that the competition between the producers of electricity, gas, and smokeless fuel will meet the demand.

RADIOGRAMS OF THE LUNG IN PNEUMONIA.

La Semana Medica gives, in a recent issue, what Dr. Carlos Hensen, the writer, probably with justice claims to be unique, a series of eight plates of the lung in an attack of acute lobar pneumonia. They were taken in a period of 12 days (the first apparently within a few hours of the initial rigor) at the patient's request, and they illustrate the condition as shown by X rays on the first, second, fourth, sixth, eighth, ninth, tenth, and twelfth days, but the exact date of the last is not given. They form a very interesting series, though not adding anything material to our knowledge of the pathology of the disease. Perhaps the most interesting point is the very considerable enlargement of the mediastinal glands, which shows after the lung has practically cleared up. This glandular enlargement does not reach its maximum till after the disease has begun to subside and is most prominent in the last picture of the series. The other point is that the consolidated area as seen extends well over to the right side of the vertebral column. This accords with the clinical fact that tubular breathing is so frequently heard along the paravertebral border of the unaffected side without implying any bilateral involvement. The series is worth studying, if only as illustrating the complete accord of the X ray and clinical findings, and is likely to remain unique owing to the rarity of the circumstances which would justify taking radiograms in acute pneumonia.

TUBERCULOSIS DISPENSARIES IN FRANCE.

THE high tuberculosis death-rate from which France has suffered for many years appears to be declining as a sequel if not a result of the well-directed impulse given to the anti-tuberculosis movement by the Rockefeller Foundation. The work of French organisations has also been remarkably successful in several instances, and an account published by Prof. P. Courmont in the *Journal de Médecine de Lyon* for October shows, among other things, how direct the relation may be between tuberculosis dispensary work on the one hand and the decline of the tuberculosis death-rate on the other. The first dispensary in Lyons was established in 1905 in coöperation with the Bacteriological Institute. After 1917 several new dispensaries were established, a total of seven being provided up to the present time. The functions of these dispensaries are much the same as those in this country; examinations are made and advice is given in the dispensary itself, whence visiting nurses, numbering 18, go to the patients' homes and help with advice and in other ways. The dispensaries also provide for disinfection of rooms, furniture, and clothing, help to transfer infants from infected to healthy homes, and keep in touch with the school medical service. Altogether there are more than 500 tuberculosis dispensaries in France, and if the results obtained by the dispensaries in Lyons are a true sample of the achievements of the French dispensaries as a whole, it is obvious that they are carrying out a most excellent work at an amazingly small cost. In 1923 the annual cost per patient treated by the dispensaries in Lyon was less than 100 francs. In the same period 2049 children were attended to, as many

as 711 being sent to the country or to preventoriums. A total of 19,468 visits were paid by the nurses, 3040 families were visited, 3483 patients were treated, and 7000 persons were kept under observation.

Compulsory notification of tuberculosis not having yet been introduced into France, the notifications of the causes of death are the only means by which the incidence of this disease can be determined, and using this criterion, Prof. Courmont is able to publish some very interesting figures. In the period 1900–1905, the average annual mortality from tuberculosis in Lyons per 10,000 inhabitants was 35·4. In the five-year period 1919–1924 this figure had fallen to 22·7. It might be argued, as Prof. Courmont admits, that this decline depended on other factors than the dispensaries—i.e., on better housing and other economic conditions. To test the validity of this argument that the dispensary system is mainly responsible for this improvement, he has compared the decline in the tuberculosis mortality in the parts of Lyons provided with dispensaries with that in other parts without dispensaries. Lyons is a town with over half a million inhabitants, the Rhone cutting it into two approximately equal halves. In the four arrondissements on the right side of the river where, until 1921, there were only two dispensaries, the decline in the tuberculosis death-rate between 1905 and 1923 was only from 31·41 to 26·2. On the other hand, in the same period there was a decline from 38·45 to 19·7 in the overcrowded quarters on the left side of the river, where the work of the dispensaries had been most energetic. In one arrondissement in which, for various reasons, no dispensary could be established, the fall in the tuberculosis death-rate in the period under review was only from 36·9 to 30·6. The area in which the oldest dispensary was established showed a fall in this mortality in the same period from 41·4 to 18·2. Apart from the fact that the one arrondissement was supplied with a dispensary and the other not, there was nothing to distinguish the one from the other as far as health conditions were concerned. Figures such as these are convincing testimony to the value of the dispensary system.

LUMBAR HERNIA OF THE KIDNEY.

OWING to the extreme rarity of this condition we draw attention to a case recently published by Dr. Ciaccio,[1] of the University of Palermo, in which the diagnosis was proved by operative intervention. Hitherto the only case in which the content of a lumbar hernia was the kidney itself was described by Monro in 1803. J. Macready, in THE LANCET of November, 1890, gave a table of 25 cases of lumbar hernia, but in none of them was the kidney itself involved, and much confusion has also arisen by describing as lumbar herniæ certain traumatic conditions produced in the lumbar region as the result of wounds, or acute suppurative processes, or weak cicatrices. In cases of true lumbar hernia Grynfeltt and Lesshaft drew attention to the fact that they did not occur in Petit's inferior triangle bounded by the internal oblique and the posterior aponeurosis of the transversalis muscle, but in the "trigonum lumbale superius," which is a space below the twelfth rib when the latissimus dorsi is turned aside where the aponeurotic expansion of the transversalis is covered only by the latissimus. In the case now published, that of a female infant, a swelling about the size of a nut was noticed at birth in the right lumbar region, which gradually increased in size. When seen at the age of 18 months the swelling was the size of a lemon, rounded and well defined, smooth, elastic, but not fluctuating, and dull on percussion. It extended from the lower border of the eleventh rib to the iliac crest, and from the paravertebral line to the posterior axillary line prolonged. The swelling could be reduced but not completely, and without gurgling; when the child cried an impulse was imparted to it. Accurate examination failed to palpate the body of the twelfth rib; only a small bony nodule about the size of an almond could be felt. At the operation the swelling proved to be the kidney, normal in size but congested. It was easily reduced into the abdominal cavity, and the hernial canal was seen as a fibrous ring, oval in shape, with the long axis upright. During the process of closing this ring a small meningocele was discovered and removed. Recovery was complete and uneventful. This interesting and almost unique case, that of Monro being the only other described in which the hernial content was the kidney itself, points to the conclusion that lumbar hernia, like all herniæ in other regions without exception, is due to a defect in formation, and has its origin not in Petit's triangle, but in the superior costo-lumbo-abdominal triangle of Lesshaft, which is larger and offers less resistance. The real solution is to be found in a developmental error of the medullary groove. The vertebral arches as well as the muscles of the trunk originate from the same somites, and it is thus easy to understand that defects in the vertebral arches with spina bifida and meningocele, as well as defects in the conformation of the muscles of the back (in this case the oblique muscles and transversalis) have in common the same origin. And in Dr. Ciaccio's case, moreover, the absence of the twelfth rib, reduced to a mere bony stump near the transverse process of the twelfth dorsal vertebra, accounts for the defect in those muscles which are normally attached to it. In addition, the absence of the twelfth rib corresponded to some other important anomaly of development in one or more of the vertebral arches, anomalies which could not be ascertained precisely in detail, but which must certainly have existed as demonstrated by the meningocele met with during the operation.

[1] Il Policlinico, Surgical Section, Oct. 15th, 1924.

THE SAFETY OF THE SCHICK TEST.

THE toxin-antitoxin test and the method of active immunisation which may succeed it appear to be free from danger in this country. No alarming or permanent ill-effects were produced in any one of the 2104 children and adults immunised recently in Edinburgh by the officers of the public health department, and Dr. W. T. Benson tells us[1] that he was able to obtain the consent of 42·3 per cent. of the parents of 6573 children under 10 at a group of Edinburgh board schools. Only four withdrawals of consent occurred after witnessing the effect of the first injection, and complaints from parents amounted in all only to 1·4 per cent. of the total number of children injected. The utmost inconvenience was a febrile reaction necessitating confinement to bed, mostly in the age-group 10 to 12. All the children recovered by the fourth day after the initial injection and suffered less from the later doses. The material used for immunisation was prepared by Dr. R. A. O'Brien and supplied from the laboratories of Messrs. Burroughs Wellcome. The safety of the method has thus not been in serious question. Unfortunately, this has not been so everywhere. In the early part of the present year 19 students at Concord Academy, Massachusetts, were rendered so ill by the Schick serum that they were obliged to remain in darkened rooms for three weeks. The toxin-antitoxin mixture used had passed the usual tests but, as was afterwards discovered, had been exposed to an unusually low temperature, below 0° F. in fact. Severe and prolonged freezing is sufficient to cause dissociation of toxin and antitoxin, with the result that the mixture becomes highly toxic. The occurrence naturally excited widespread alarm, but anxiety was allayed by the knowledge that its repetition could be prevented by avoidance of freezing. Our Vienna correspondent, however, sends us (see p. 1086) details of an occurrence in a children's hospital near Vienna of a far more terrible kind. A newly admitted infant developed diphtheria, whereupon seven other infants were injected with toxin-antitoxin mixture and

[1] THE LANCET, Nov. 8th, p. 949.

promptly died of heart failure. No blame, it is stated, attaches to the medical officers of the hospitals, who followed precisely the directions given on the ampoules. The serum apparently was in order when bottled, but had been on hand for a prolonged period. It was supplied by what was at one time the State-controlled Serological Institute of Vienna, which is now a commercial undertaking. In Prof. Paltauf's time—he died early in the present year—the Institute was a model for other European centres of like nature, and a host of important publications have issued from it. The lesson is obvious. It is not safe to risk toxin and antitoxin becoming dissociated in the mixture by long keeping. Schick serum must be fresh. Experience of this kind is gained too dearly; precise and rigid control by responsible authority is required in the case of preparations so potent for good or for ill.

THE FUNCTION OF STATISTICAL METHOD.

THE Industrial Fatigue Research Board has issued, as No. 28 of their series of reports,[1] a lecture by Mr. Udny Yule on the Function of Statistical Method in Scientific Investigation. It would be hard to conceive of a more competent and more attractive expositor than the new President of the Royal Statistical Society, and his lecture deserves the widest possible audience. Mr. Yule points out that "statistical methods are methods for handling and elucidating the meaning of data affected by 'disturbing causes,' or generally by a multiplicity of causes. Hence their very wide applicability." It follows, of course, that the experimental method, which aims at the isolation of supposed "causes" and presumed "effects," will, the nearer it attains to its ideal, require fewer and simpler statistical methods. Indeed, in the case of perfect isolation, the only statistical problem to be solved is, What is the probability that this sample adequately specifies the characters of the "universe" from which it came? A question, however, which is not always easy to answer. This consideration may, perhaps, qualify Mr. Yule's moral: "Let the experimenter who is driven to use statistical methods not forget this, that the very fact that he is compelled to use statistical methods is a reflection on his experimental work. It shows that he has failed to attain the very object of experiment and exclude disturbing causes." Still, even if we accepted Mr. Yule's moral in its full rigour, the field of the statistician would remain immensely large, and the series of illustrations of method drawn from agriculture, biology, bacteriology, and industrial physiology, which he discusses, is a witness of that truth.

BACTERIOLOGY OF HUMAN MILK.

ATTRACTED by an observation upon a case of infantile gastro-enteritis, in which identical streptococci were isolated from the infant's stools and the mother's milk, Prof. L. S. Dudgeon and Dr. R. C. Jewesbury[2] have investigated the bacteriology and cytology of human milk in a large number of nursing women, and have also examined the influence of breast infection and mastitis upon the health of the child. Some of their conclusions are of considerable general importance and may be briefly summarised. They state emphatically that their results throw no doubt upon the unquestionable value of breast-feeding, but at the same time direct attention to this possible source of infection in breast-fed infants where the source is otherwise obscure. The commonest organisms found in the milk are staphylococci, as was pointed out by Cohn and Newmann in 1891, and many of these, including most of the albus variety, may be regarded as unavoidable contaminators; probably they exist saprophytically in the ampullæ of the larger ducts and, as suggested by the experiments of these observers, tend to pullulate in the intervals between suckling. Streptococci are also found in about 40 per cent. of cases, but there is little evidence that these are often of a pathogenic variety. A rather important series of observations was made upon the cytology of the milk and it was found that in some cases pus cells were present in large numbers, particularly in association with *Staphylococcus aureus*. Cases of this class appeared to be definite infective conditions of the breast and many of them subsequently proceeded to mastitis and abscess formation. From the stools of infants suckled by these mothers it was usual to recover the organisms found in the milk, and though there was often no evidence of harm accruing to the child it is obviously undesirable that these pyogenic cocci should obtain access to the infant's organism if this is preventable. The cytological examination of milk would appear to be a very informative procedure where breast infection is suspected, and often yields positive information of an impending mastitis before the clinical signs of this have developed. One interesting side issue may be quoted, that in human milk infected with staphylococci and *B. coli* no clotting occurs, such as is usual with cows' milk. This may perhaps go towards explaining the apparent general immunity from gastro-intestinal disorders of breast-fed infants consuming such highly-infected milks and their frequent occurrence in those fed on cows' milk which may be similarly infected.

[1] Report No. 28, Industrial Fatigue Research Board. London: H.M. Stationery Office. 1924. Pp. 14. 6d.

[2] Journal of Hygiene, October, 1924.

THE PITUITARY PRINCIPLE.

IN the October number of the *Bulletin* of the Johns Hopkins Hospital Prof. J. J. Abel has given an account of his recent work in which he attempted to isolate the active principle of the posterior lobe of the pituitary body. As yet a pure crystalline compound has not been obtained, but the preparations have undoubtedly an extremely high order of activity; thus a striking contraction of the isolated uterus of a virgin guinea-pig is produced by a dilution of a "pituitary tartrate" so great as 1 part in 18,750 millions. Perhaps the chief interest of Abel's work is in the indication it gives of the intensity of the physiological activity of such a hormone as this; for it is not claimed that this tartrate is even approximately pure, and it may well be that the activity present is due to mere traces of the hormone clinging to the tartrate of an inert compound. Consequently the activity of the pure material, if ever it is isolated, may be such that it will act not only in the paltry dilution of 1 in 20,000 million, but also in dilutions of 1 in 1,000,000 million. Such considerations help to explain the failure of Abel and his colleagues on the one hand, and of H. W. Dudley, working in this country on the other, to achieve the final isolation of the pituitary active principle, and they make it likely that a considerable time must elapse before chemical methods will be sufficiently refined to bring success.

MEDICAL SCHOOL BUILDINGS.

MANY people find it easier to get a house to their mind by altering an old building rather than designing a new one from the bottom. And those who want to make the best of any of the princely benefactions that fall to medical schools nowadays have a great deal of anxious thought in designing their new buildings. The Rockefeller Foundation, most princely of benefactors, has now itself issued[1] a series of useful descriptions of a variety of recent buildings which have been put up, with some account of the methods of teaching in use in a number of them. Accounts, pictures, and plans are given of the new anatomy buildings at University College, London, Peking, Brussels, Würzburg, Basle, and New Haven, of the department of pharmacology at Yale, of the

[1] Methods and Problems of Medical Education, First Series. The Rockefeller Foundation, 61, Broadway, New York City.

pathological institute at Graz; of the Boston Lying-in Hospital, of the department of obstetrics and gynæcology at Peking, and of the Thorndike Memorial Laboratory at Boston. The plans are clear and informative, and will be of real value to those who have the responsibility for erecting similar departments elsewhere. The volume is edited by Dr. R. M. Pearce, director of the division of medical education of the Rockefeller Foundation, and further instalments are promised as material becomes available. At the moment the two descriptions which will probably be of most interest to our readers are those of the Boston Lying-in Hospital and the Thorndike Memorial. The conviction that the teaching of practical midwifery is not as good as it should be is widespread, and better conditions in the maternity hospitals are beginning to be realised, notably in the new building at University College Hospital. The movement will no doubt spread and new equipment will be needed in many places. In the Thorndike Memorial is realised the combination of ward and laboratory, which is also one of the popular items in the reform of medical education and investigation. At present we try to achieve the combination by adding laboratories to the wards of general hospitals. It is a further step, and for some purposes an absolutely necessary one, to add wards specially reserved for investigation rather than the treatment of the sick poor to laboratories, and this new building in Boston suggests a convenient way of doing it.

The Services.

COLONIAL OFFICE.

THE Secretary of State for the Colonies has appointed Sir William Prout, C.M.G., O.B.E., M.B., C.M., late Lt.-Col., Royal Army Medical Corps, to be Senior Medical Adviser to the Colonial Office in London, in succession to Sir John Rose Bradford, K.C.M.G., C.B., M.D., F.R.S., who has resigned his appointment.

Mr. A. E. Horn, C.M.G., M.D., has been appointed Junior Medical Adviser, in succession to Sir William Prout.

COMMISSIONS IN ROYAL ARMY MEDICAL CORPS.

It is officially announced that not fewer than 20 commissions in the R.A.M.C. will be granted to successful candidates in an examination to be held in London on Jan. 28th next. Applications to compete must be made not later than Jan. 18th, and meantime a full statement of the duties and emoluments of the service can be had on written application to the Under Secretary of State (A.M.D.1), The War Office, Whitehall, London, S.W.1.

ROYAL ARMY MEDICAL CORPS.

Capt. F. G. A. Smyth is granted the temp. rank of Maj. whilst empld. as a Dept. Asst. Dir. of Pathology.

Maj. R. F. M. Fawcett retires on ret. pay and is granted the rank of Lt.-Col.

ARMY DENTAL CORPS.

Lt. T. D. Corke to be Capt. (prov.).

RESERVE OF OFFICERS.

Supplementary Reserve.—Lt. C. W. Badger, late R.G.A., Spec. Res., to be Lt.

TERRITORIAL ARMY RESERVE.

Lt.-Col. A. M. H. Gray (Supernumerary for service with University of London O.T.C.), from the Active List, to be Lt.-Col.

THE FEES OF CIVILIAN MEDICAL PRACTITIONERS.

It is announced that the fee of 3*s.* 3*d.* authorised by the King's Regulations and Admiralty Instructions to be paid to civilian medical practitioners in respect of visits of ratings to the doctors' residences or surgeries for consultation will be reduced to 2*s.* 6*d.* as from Nov. 1st.

MEDICAL PRAYER UNION.—A meeting will be held, by kind invitation of Dr. Mary Scharlieb, at 149, Harley-street, W.1, on Wednesday, Dec. 3rd, at 8 P.M. An address will be given by the Rev. R. Calder Gillie on Personality: God's Chosen Channel of Self-revelation. An intimation of intention to be present will be welcomed by the hon. secretary, Dr. Tom Jays, Livingstone College, Leyton, E.10.

Modern Technique in Treatment.

A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.

XCVII.

THE TREATMENT OF CLEFT PALATE.

MUCH has been written on the subject of cleft palates, and many variations of treatment advocated; nevertheless the end-results of treatment, as seen in middle-age in a large proportion of cases, are far from satisfactory from the points of view of speech and appearance. It is evident that more attention has been paid to the actual surgical closure of the cleft in early childhood than to the prospects of functional ability in later years.

Movements of the Soft Palate during Speech.—The action of the muscles which enter into the formation of the soft palate is to raise or lower the palate to enable it to make or break contact with the posterior wall of the pharynx so as to close off the oral from the nasal pharynx, and the functional success of the treatment is almost entirely dependent upon the restoration of this action. However successfully the cleft in the hard palate may be closed, unless a soft palate is obtained which will reach the posterior wall of the pharynx when raised and so enable the patient to shut off the oral from the nasal pharynx during speech, the result must be regarded as a surgical success but a functional failure.

Langenbeck and Lane Operations.—The usual operations performed in this country are variations of the Langenbeck and Lane operations, which have the common factor of the closure of the cleft by soft tissues, with the result that a certain amount of scar-tissue is formed. In view of the great contracting tendency of scar-tissue little wonder that after these operations the parts concerned tend to be drawn towards the centre-point of contraction—i.e., the middle of the palate. The dental arch is contracted with resultant loss of occlusion of the teeth, the pre-maxilla (in cases of double cleft) is drawn backwards with resultant marked facial deformity, and the delicate tissues of the soft palate are drawn forward, thus causing it to lose ability to perform its function of closing off the oral from the nasal pharynx, with resultant imperfect speech. Further evidence of this contraction may be obtained by X rays, when it will be observed that the two bony parts of the maxilla have so approximated that the original cleft appears only as a narrow dark area. These deformities appear more marked when the operation has been performed at an early age, as the bone is then more easily moulded than in later life. Another contributing factor to these deformities is the apparent lack of growth of the maxilla as a whole after surgical interference, which accentuates the condition as the mandible develops. Orthodontic treatment is often resorted to to expand the arch after these operations, but is usually not attended with satisfactory results, and it is open to doubt whether the extensive movement of the teeth that is required does not lead to their premature loss.

Preliminary Measures, including Operation for Hare-Lip.

The ideals to be aimed at in the successful treatment of these cases are: (1) The general health of the patient; (2) good speech; (3) proper mastication; and (4) good appearance. The technique to enable us to reach these ideals as far as possible is as follows. To enable the infant to take its food it should be provided at birth with a small sucking plate, which is of simple construction and can be made in one day. It will not always enable the infant to feed at the breast, depending largely upon the amount of milk present, but it will certainly enable the infant to suck

from a bottle and feed like any normal child. This plate is only worn whilst the child is feeding, and may be continued without alteration until between the second and third months, at which time a hare-lip operation should be performed if necessary. The reasons for operating at this age are: (*a*) The child having been naturally fed for this period is better fitted to undergo the operation; (*b*) owing to the action of sucking, the two parts of the maxilla will have appreciably approximated, as may be demonstrated by a comparison of models of the mouth taken at birth and at this period; and this fact, together with the increased supply of soft tissues, renders the operation easier; (*c*) if the operation is postponed after the third month the child has a tendency to push its thumb into the cleft with resultant widening.

In cases of double cleft with a protruding pre-maxilla, it is essential for the future appearance of the child that the pre-maxilla should be replaced in its natural position between the two parts of the maxilla whilst the lip operation is being performed. After the hare-lip operation, the original sucking plate must be reconstructed or, preferably, a new one made, to conform with the altered conditions. This plate will carry the child on until the teeth begin to erupt, at which time the infant accommodates itself to the condition and will be able to feed without its assistance.

From the third month to the third year no special treatment is required, beyond special attention to the conservative treatment of the teeth. The dental arch not having been interfered with, the temporary teeth will erupt in good occlusion with the lowers except those involved in the actual cleft, which may erupt somewhat irregularly but call for no drastic treatment. The child will be able to feed quite normally, although the usual difficulty when starting with solid food may be slightly prolonged. This, however, is an entirely temporary trouble which is soon overcome and calls for no anxiety.

Definitive Measures Three Years after Birth or Later.

When the child reaches the age of 3 years there are three courses of treatment open, viz.: (1) Surgical, (2) prosthetic, and (3) surgical and prosthetic.

1. *Surgical.*—If it is desired to treat the case by purely surgical means the Langenbeck operation may be performed, but the hard palate should be closed first and followed later by the closure of the soft palate, as this course helps to lessen the pulling forward of the soft palate alluded to above. In theory this operation should give good results, but it must be realised that the soft palate is such a delicate organ that when part of it is lost by surgical interference it cannot be replaced by any means yet known to plastic surgery. If the operation is not entirely successful at the first attempt the resultant condition is far more difficult to treat, either by surgical or prosthetic means, than if the operation had not been performed. It is this great risk and the deplorable results that so often follow that preclude recommendation of this treatment, and compel us to seek a safer and more efficient treatment in which the risk is entirely eliminated.

2. *Prosthetic.*—The prosthetic line of treatment consists of the fitting of an obturator to restore the hard and soft palates. This treatment is commenced during the fourth year, and naturally the apparatus has to be renewed from time to time, depending largely upon the eruption of the teeth. The points in favour of this treatment are: (*a*) No operation having been performed upon the maxilla, except for the hare-lip, the dental arch develops like that of a normal child, with the result that the occlusion of the teeth is practically normal except in the immediate neighbourhood of the cleft in the alveolus; (*b*) as the result of the normal development of the maxilla unhindered by operation, the usual cleft palate disfigurement is avoided and the appearance of the child is not affected; (*c*) when the soft palate is not interfered with Nature endeavours to accommodate it to the condition; the two separate halves hypertrophy, together with the muscles of the posterior wall of the pharynx, and so facilitate the fitting of a really functional obturator. It has often been stated that if children are not operated upon or some appliance fitted at an early age they will develop bad speech and that this habit is very difficult to cure. This is a fallacy. Experience of about 300 cases has proved to me that the quickest and some of the best results in speech are obtained when the patient comes for treatment between the ages of 12 and 18, without any previous surgical or prosthetic treatment. The prosthetic treatment fulfils all the ideals mentioned above, good speech especially being almost a certainty. The only disadvantage of this treatment is that the patient has to keep in touch with a dental surgeon experienced in the construction of obturators.

3. *Surgical and Prosthetic.*—This combined treatment has for its purpose the closing of the soft palate by surgical means and of the hard palate by a dental plate.[1] The primary importance in speech of a functional soft palate is the basis of the treatment, and this is secured by utilising all the available soft tissue in its construction, thus leaving the cleft in the hard palate to be closed by means of a dental plate. This plate is of simple construction, and is similar to the ordinary denture which in a large number of cases is necessary to replace the involved incisor teeth, these being often irregular and requiring extraction. The advantageous features of this treatment are: (*a*) A long soft palate which reaches the posterior wall of the pharynx when elevated, resulting in good speech. Any tendency of the palate to move forward is obviated by the dental plate, which is carried slightly into the cleft. (*b*) A normal dental arch which has not been distorted by surgical interference, eliminating facial disfigurement and giving good occlusion of the teeth with normal masticatory function.

The best results from this treatment accrue when the operation is not undertaken until the child is 6 to 8 years old, and this postponement calls for patience on the part of the parents. It is often advisable to insert a small obturator after the age of 4 years to accustom the child to the wearing of a plate, to aid speech, and to give the parents the necessary assurance. In performing the operation special attention must be paid to the insertion of a dental plate at the same time, otherwise the soft palate will tend to be drawn forward and the most important feature of the operation missed.

Conclusion.

It must be borne in mind that if the early operation is not completely successful future treatment is far more difficult, and necessitates the use of more complicated appliances, than if the operation had not been performed in early infancy. It seems, therefore, desirable that the safer prosthetic, or the combined surgical and prosthetic courses, should be adopted.

W. KELSEY FRY, *M.C.*, M.R.C.S., L.D.S.,
Assistant Dental Surgeon, and Director of Prosthetic Laboratory, Guy's Hospital.

[1] See Gillies and Fry, Brit. Med. Jour., March 5th, 1921.

ERITH AND DISTRICT NEW HOSPITAL.—The new hospital for Erith, Crayford, Belvedere, and Abbey Wood was opened by the Prince of Wales on Nov. 19th. The old hospital, which was built 50 years ago to meet the needs of a small riverside hamlet, contained only 12 beds, but as the needs of the district grew the arrangements of the institution became inadequate. In 1922, therefore, a new building scheme was proposed. A site at the top of Park-crescent was presented by Mr. G. H. Gunning, a small piece of adjoining land was purchased for £228, and a fund was started to build a new hospital at a cost of some £15,000. This hospital, which is now open, has 21 beds and is built on the most approved modern lines, including an operating theatre.

Special Articles.

SURGICAL BOOTS.

BY CHARLES MACKAY, M.D., B.S. MELB.,
MAJOR, R.A.M.C. (HON.); MEDICAL OFFICER IN CHARGE OF ORTHOPÆDIC CLINICS, MINISTRY OF PENSIONS;
AND
D. DENHAM PINNOCK, F.R.C.S. ENG.,
ASSISTANT SURGEON, LONDON TEMPERANCE HOSPITAL AND VICTORIA HOSPITAL FOR CHILDREN; MEDICAL OFFICER IN CHARGE OF ORTHOPÆDIC CLINICS, MINISTRY OF PENSIONS.

THE ordering of surgical boots is not infrequently considered by the general practitioner to be the exclusive privilege of the orthopædic surgeon or of the so-called surgical bootmaker. This abdication of one of the realms of treatment is unnecessary in many cases, and in the latter instance may result in much harm to the patient. Practitioners risk the loss of both prestige and patient by sending a case of foot deformity to a surgical bootmaker for treatment. To us this is a confession of weakness. We consider that every practitioner should be able to order an ordinary surgical boot with knowledge of the therapeutic requirements, and of the effect likely to be produced.

There are many essential practical details of the actual making of a surgical boot which must necessarily be left to the skill and experience of the surgical bootmaker. The type of boot, however, should always be prescribed by the medical attendant, and whenever possible with the bootmaker present. We have come into close contact with many surgical bootmakers, and it is rare in our experience to find one who could be depended upon to supply a completely satisfactory surgical boot on his own initiative. The practice of patients going indiscriminately to surgical bootmakers is one to be strongly condemned. The majority of conscientious bootmakers would, we consider, greatly prefer a surgical prescription into which they could put all the skill and knowledge at their command. To be able to order surgical boots satisfactorily presupposes some orthopædic knowledge, but it is a comparatively simple matter, and in its main principles not difficult to comprehend.

This article is an attempt to formulate some definite principles to be followed in the ordering of surgical boots; also to submit a nomenclature which would enable a practitioner to write a prescription which should be easily understood and followed by a surgical bootmaker. These principles are the result of a considerable personal experience; but it must be remembered that this is notoriously a realm of treatment where differences of opinion are often acute and sharply defined.

In ordering surgical boots a primary consideration to be borne in mind is that of the patient's comfort; surgical boots must be comfortable or it is impossible to obtain any therapeutic advantage from them. As well as being comfortable, surgical boots must be efficient to correct the deformity, and fulfil the conditions required; we may often have the first without the second factor. A patient should never have to "break in" a pair of surgical boots, and although the full advantage of surgical alterations may not be realised for several months, these should never be so designed as to make too violent an immediate change in the attitude of the foot. Very often it is essential to accommodate our ideas of what is surgically necessary to what the patient can bear, and to hasten slowly.

Every prescription for surgical boots must be, in our opinion, to some extent a considered experiment, and we should be able to alter it as we would any other prescription, although not perhaps with the same degree of freedom. Patients should not be simply ordered surgical boots, and then seen again in 6 or 12 months' time. The patient should be seen as soon as possible after delivery of the boots, and again in about a month's time, when an examination of the feet and the boots will reveal whether comfort and efficiency are being obtained. With boots more than with anything else it is never wise to ignore the patient's feelings; if he is reasonably intelligent his remarks on the comfort or otherwise of his boots are well worth paying attention to. The sole of a worn boot will often yield much information to the observant eye.

The actual measuring for surgical boots by the bootmaker should be done whenever possible in the presence of the surgeon. Careful examination of the foot should be made, the type of surgical alteration to the boot decided upon, and then the measurement should be taken in a thick pair of socks or stockings. If the surgical boot is of a complicated character a fitting of the boot in an unfinished state should be made whenever this can be arranged—at this stage alterations can easily be made. In gross deformities a cast of the foot may be a necessary preliminary. For patients who cannot afford the expense of a hand-made surgical boot, surgical alterations of various kinds can be adapted to a strong machine-sewn boot, and this has often to be done.

The human foot, although in many ways a complicated structure, is in its essential mechanism a straightforward problem. The diagnosis of foot disorders of a bony or arthritic nature is always controllable by X ray examinations.

Ill-effects of Faulty Boots.

The modern system of encasing feet in stout leather boots with a comparatively narrow fore-part, ill-adapted to the shape of the foot, is the cause of much unnecessary suffering. Probably this and the wearing of badly fitting socks, &c., have been directly responsible for the greater number of the painful deformed feet seen. The narrow fore-part of ordinary boots, by squeezing the toes together, allows no freedom of movement, and in this way an atrophy of the small muscles of the foot is produced which leads to various deformities. Faulty footwear we consider is mainly responsible for such disabilities as hallux valgus, hallux rigidus, hammer-toes, claw-foot, various types of the so-called flat-foot, and metatarsalgia. This may seem to be a long list, but we have no reason to think that it is in any degree exaggerated.

It does not include such minor but painful conditions as bunions, corns, callosities, &c., and it must be remembered that several of these conditions may coexist in the same foot. For example, hallux valgus and rigidus are very frequently associated with some degree of flat-foot.

The Choice of a Boot.

The present-day orthopædic conception of a suitable man's boot is one which fits firmly round the heel, ankle, and instep, but gives the fore-part of the foot plenty of room. The boot should also be broad at the toes with a straight inner border, and the upper should be well raised to avoid pressure on the toes.

A point often neglected in choosing boots is the length. In walking and weight-bearing there is a forward thrust of the foot and toes which must have room for its accommodation. In boots made to measure the length is usually at least two sizes longer than the bare actual measurement. A short boot is a fatal mistake.

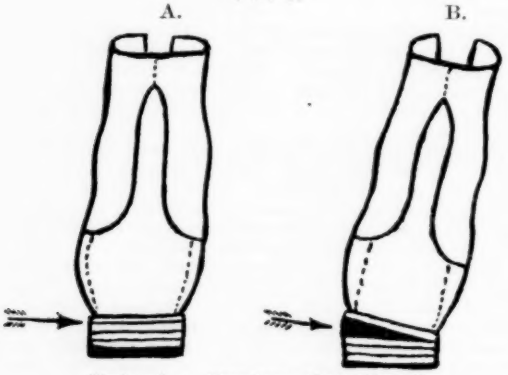
The Human Foot.

To simplify our mental picture of the human foot it is an easy matter to make a rough division of the bones of the foot into an anterior and a posterior portion; the posterior or hinder part of the foot consisting of the os calcis and astragalus, and the front part consisting of the remainder of the foot. The posterior portion of the foot is the firm support for the body-weight, and therefore requires to be well stabilised in the boot; it is not subject to many deformities or disabilities. The anterior portion of the foot is the mobile portion of the foot and comes into play in all

active movements, games, &c., where lightness and quickness of movement are essential. Owing to this mobility it is necessarily subject to many stresses and strains. The ill-effects of these may necessitate the surgeon's interference, either operative or by the provision of surgical boots, or both.

From the foregoing it can be seen that surgical boots should fit firmly round the ankle and give stability to

FIG. 1.



Heel wedge. Showing method of insertion.

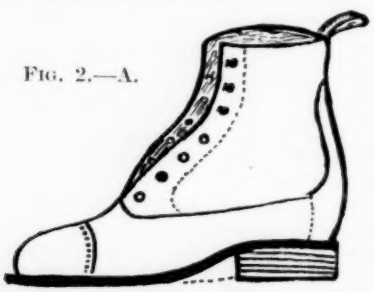
the posterior portion of the foot. They should also be so designed as to give as much freedom of movement as possible to the anterior portion.

Surgical Boots—Palliative and Remedial.

Surgical boots fall primarily into two large divisions. First, those designed to fit fixed deformities for the purpose of appearance, comfort, and relief of pain. Second, those designed with therapeutic purpose to combine comfort with an attempt at the correction of a non-fixed deformity, or to prevent the increase of a deformity if correction is impossible.

The first group may be called palliative only, and the second remedial or corrective. Under the first heading come the boots ordered for amputation of whole or part of the foot, rigid inversion or eversion, shortness of leg due to fracture with faulty union, and other permanent deformities, &c. Under the second come the cases where boots are ordered for temporary or remediable deformities due to paralysis or paresis, &c., which will improve under treatment.

FIG. 2.—A.



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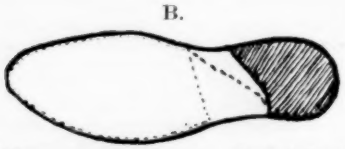
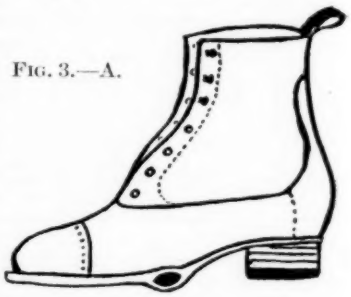


Oblique or crooked heel. (Dotted lines show position of continuous or "Thomas" heel.)

Surgical boots are hand-made, and necessarily require to be of first-class workmanship, hence their extra expense. Uppers should be of the best box calf or glacé kid; the lining may be either of leather, drill, or linen, as best befits the type of boot. Leather lining is inadvisable for cases of "hot" feet, as the excessive perspiration inevitably rots the leather more quickly than it would drill or linen. The occupation of the individual patient should be borne in mind when ordering the boots. The sole leather should be the best oak-tanned.

A boot consists of the upper with its lining, the toe-cap, the welt, the insole, the sole, the heel, and the tongue. In making the boot, the stiffener, a piece of thin but firm leather, is sewn between the upper leather and its lining; this goes round the heel as high as the seam and as far forward as the front of the heel. In surgical boots it is sometimes found necessary to prolong the stiffener on one or other side as far as the tread, or it may be produced upwards to grip the ankle.

FIG. 3.—A.



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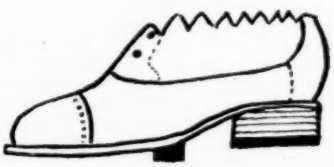


C.

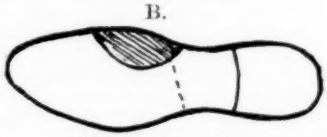
Metatarsal bars. Showing position and two methods of fixing.

The factors which go to the making of a surgical boot, the measuring, the fitting of the special last, the cutting of patterns and linings, the closing of uppers, and the finishing of the boot, allow much scope for mistakes, as each process is technical and requires special skill and experience.

In serious abnormalities and deformities it may be necessary to take sketches of the foot in various positions or even to take a plaster cast. The surgical boot is necessarily built upon a special last.

FIG. 4.—A.

B.



Sole patch or wedge.

Conditions Requiring Use of Surgical Boots.

Surgical boots or surgical alterations to a patient's own boots may be required for one or more of the following conditions:—

1. Shortness of leg.
2. Amputation of foot, Syme's or partial.
3. Amputation of toes.
4. Pott's fracture with eversion deformity of foot.
5. Fracture deformity of the foot itself.
6. Strains of the foot resulting in impairment of the inner longitudinal arch, different types of the condition classified as flat-foot.
7. Claw-foot or pes cavus.
8. Severe hammer-toes.
9. Hallux valgus and rigidus.
10. Metatarsalgia associated with partial loss of the transverse arch of the foot.
11. Painful conditions in the neighbourhood of the heel.
12. Various forms of drop-foot.
13. Deformities associated with paralysis.
14. Congenital deformities.

The Prescription of Surgical Boots.

At this stage we will enumerate briefly the various special terms used in ordering surgical boots, and the disabilities to which they are applicable. The disabilities themselves will be dealt with separately and at greater length.

1. *Crooked heel* (Fig. 1).—"The heel of the boot is made ½ inch higher on the inner side, tapering gradually to the outer side, so that the inner side of the heel is ½ inch higher than the outer. In addition the length of the heel should be extended forwards by about ¾ inch on the inner side." (This heel sometimes goes by the name of oblique heel.) This is the description given by Sir Robert Jones, but it is not always understood by surgical bootmakers that a crooked heel is a wedged heel, and it may be necessary to explain the term.

FIG. 5.

T-strap.

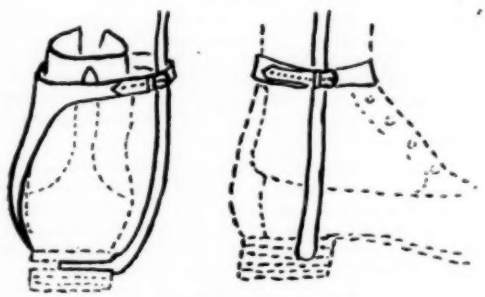
2. *Thomas or continuous heel* (Fig. 2) is similar to the former, but the extension is carried as far forward as the tread; this is not often found to be necessary.

3. *Metatarsal bar* (Fig. 3) is a bar of leather about ¼ inch in thickness and 1 inch broad attached to the boot sole on its outer surface. The type most commonly found suitable is called a concealed metatarsal bar, and is incorporated between the sole and the insole. It lies obliquely across the sole of the boot from within, outwards and backwards, parallel to and immediately behind the heads of the metatarsals. By means of this bar the body-weight is directed more on to the necks of the metatarsals than on to their heads.

4. *Wedged sole* (Fig. 4) is a wedge-shaped piece of leather ¼–½ inch thick at base of the wedge, incorporated in the sole, usually on the inner side.

5. *Turned up or raised insole.*—This is a surgical alteration in which the insole is so cut that when sewn into the boot a part of it turns up to support the inner longitudinal arch of the foot, and is incorporated in the upper. In our opinion this is preferable to all the forms of metal support, &c. which are sold in such large numbers.

FIG. 6.



Surgical iron and T-strap.

6. *T-straps* (Figs. 5 and 6).—These are only of use with surgical irons, the inside T-strap with the outside iron, and vice versa. A T-strap consists of a piece of leather cut in the shape of a T, the vertical part being broad, some 2½ inches wide, and long enough to reach from the top of the boot heel to the malleolus, while the cross piece ends in a strap and buckle to fasten round the iron as a point of support. The purpose of this is to exert pressure on one or other malleolus to correct eversion or inversion as the case may be. Thus an *everted foot* requires an *outside iron and inside T-strap*, and vice versa.

7. *Cork insole* is the name given to the cork which is placed inside the boot to provide the amount of raising necessary to overcome the shortening of the leg.

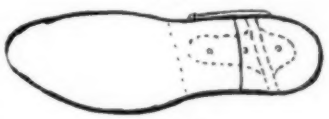
8. *Cork forepart* is the cork used to fill the toe of the boot where the toes have been amputated, or in partial amputation of the foot.

9. *Heel sockets.*—A properly constructed socket for the reception of the lower end of a surgical iron consists of a metal plate built into the heel and waist of the boot, to the under surface of which is welded the metal tube, which may be round or flat. If the former, it is called a *circular tube*, if the latter a *box socket* (Fig. 7).

10. *Sponge rubber*, which is made in sheets ¼ inch thick, has recently come much into favour for the facing of a cork insole or a cork forepart, especially where the foot is tender and painful. Sponge rubber soles, half soles, or heels inside the boot may be ordered to give relief to tender feet.

11. *Metatarsal sock or pad.*—This is the name given to a leather insole made with a slight projection to fit the hollow of the foot behind the heads of the metatarsals. It brings pressure to bear at this point chiefly on the second, third, fourth metatarsals, and so tends to rest and support the anterior or transverse arch.

FIG. 7.



Box-socket.

Generally speaking, when ordering surgical boots the quality of the leather should be stated, whether willow calf, box calf, glacé kid, &c.; also whether toe-caps are to be added, and whether the lacing should be to the toe-cap or to the toe; whether extra stiffening is required, or whether some ordinarily present round the heel should be left out. Other points include the question of the uppers, whether extra height is required; wedging of the sole or heel or both, and the height of the wedge; the placing of sockets in the heel for the reception of irons or caliper; the addition of a T-strap; crooking of the heel, usually in association with wedging; the addition of metatarsal bars; the raising of the heel or both heel and sole by means of (1) outside cork, (2) inside cork; incorporation of steel plate in the sole.

In the subsequent article there will be considered the serious complication of shortening of the leg, as well as flat-foot, metatarsalgia, and other circumstances requiring surgical boots, constituting a general application of the principles here suggested.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

X Ray Treatment of Inoperable Tumours.

AT one of the recent meetings of the Vienna Medical Society two very instructive cases were shown where X ray treatment resulted in an unexpected improvement. In the first instance, Dr. Lenk showed a 11 year old girl, who had been operated on four years ago for a small spindle-celled sarcoma of the soft tissues of the trunk, attacking the bones. After an X ray treatment of six weeks she seemed "cured." Six months later a metastatic growth in the scar was again removed by X rays. In 1923 she returned in a most deplorable condition; she was cyanotic, dyspnœic, and had hæmoptysis. An X ray plate showed the lungs filled with small nodules. Under protracted radiation at long intervals she rallied, and the X ray plate now shows only a network of dark lines, where the multiple nodules had been situated (fibrous degeneration?). The girl is at present practically cured. The second case, shown by Prof. Schlesinger, was a woman who had been suffering for 12 months from symptoms of a tumour of the brain; vertigo, severe headache, vomiting, papilloedema. Multiple paralysis of the cranial nerves of a degree rarely observed soon appeared; all the nerves from the second to the twelfth on the left side were affected, while on the right side the third, the motor part of the fifth and the sixth were involved. The Wassermann was negative; antiluetic treatment was useless. Cerebral tumour was diagnosed,

and as it seemed inoperable, X ray treatment was instituted. The effect was immediate; nearly all symptoms disappeared within three months, and the patient can now eat, masticate, walk, and move her eyes. The vomiting disappeared. In the discussion following the two demonstrations it was pointed out that quite a number of cases have already been recorded in which X rays were extremely effective in improving inoperable cases of tumours. Eiselsberg has reported seven cases and Szallitzer three cases, in which patients otherwise doomed to rapid death were saved. Redlich and Marburg have also seen such results, but they pointed out that it was not justifiable to speak of a cure. Both have seen cases improve, but they happened also to be present at the post mortem of patients, and in all cases the tumour was found to exist in the brain or medulla or hypophysis. Every operable case should be operated on as thoroughly as possible and afterwards subjected to radiation. Schwarz laid stress on the fact that the histological structure of the tumour was responsible for the outcome of the treatment. Gliomata were most subject to retrogressive changes under this kind of treatment.

Disastrous Diphtheria Prophylaxis.

Considerable public feeling was aroused recently in Vienna when it became known that a few weeks ago seven children, inmates of a children's hospital near Vienna, had died after receiving a prophylactic injection of anti-diphtheritic serum. The fact was at first kept secret, and it was only by accident that it leaked out. The public were seriously and justly annoyed at the attitude of the authorities, and the press did not abstain from calling this procedure by a hard name. The actual occurrence was as follows: A child, under treatment for some other ailment, contracted diphtheria and received its dose of anti-toxin; seven other children, inmates of the same ward, were at once "immunised" by the usual method now used in many countries of injecting toxin-antitoxin. The result, however, was that all seven died, the chief symptoms being those of heart failure. The toxin-antitoxin mixture had been obtained from the Vienna Serological Institute, a former State institute, which has recently become a commercial undertaking. The ampoules of the mixture, as formerly issued by the State institute, were guaranteed as efficacious for a short period only, after which they could be exchanged free of charge, but the toxin-antitoxin as now issued by this institute was supposed to remain in good condition for two years. It is fairly certain that the original product had been tested when sent out, but it is well known that the antitoxin is liable to disintegrate much more quickly than the toxin, and so the unfortunate babies received actually a full dose of toxin, with rapidly fatal results. Inquiry showed that the medical staff of the hospital followed strictly the instructions on the ampoules, the correctness of which they had no reason to question.

A Dentists' Exhibition.

The union of the Vienna dentists intends to arrange an international meeting of dentists (medical men and mechano-dentists) in May, 1925, a prominent feature of which is to be an exhibition of all methods, apparatus, and appliances pertaining to operative and conservative dentistry. A large collection of specimens, wax models, and diagrams of diseases of the teeth is available. A special department will be devoted to the history of dentistry. The ancient methods of dealing with diseases and disorders of the teeth as revealed in Egyptian, Greek, and Roman findings and literature, will be shown either by means of original specimens or in good reproductions. The public will not be troubled with advertising elements, as the entire exhibits will appear as the result of coöperative work of the scientific union of dental mechanics.

Fatal Injuries at Football.

Within the last year several cases of severe collisions between football players have occurred in Vienna, of which one, occurring a few weeks ago, proved fatal. The young player had been accidentally kicked in his left side, collapsed, and was brought to the accident ward. A rupture of the spleen and fracture of several ribs was found, and in spite of an operation he died a fortnight later. Dr. Heslinger, from the Eiselsberg Clinic, recently reported on two other cases of severe injuries sustained by footballers as a result of such accidents, occurring within six months of each other. In both cases the victims were kicked in the abdomen and collapsed. In the hospital both patients were found to have sustained ruptures of the kidney, necessitating nephrectomy.

Death of Dr. Gersung.

One of the pioneers of surgery in Austria, Dr. Gersung, passed away recently at the age of 81 years. Although he was never on the teaching staff of the University, he succeeded in building up a world-wide reputation as a surgeon, and his methods of plastic operations and the cosmetic injections of paraffin, which he was the first to use, showed him to be an original thinker. He was an intimate friend of Billroth, and with his aid he organised the "Rudolf Stiftung," a special surgical hospital, which was the first on the continent to pay special attention to the training of nurses. Gersung's chief work lay in the improvement of methods of abdominal and limb surgery.

BUCHAREST.

(FROM OUR OWN CORRESPONDENT.)

Accidents with Salvarsan Preparations.

AT the Interhospital Association meeting in Jassy held recently, Dr. Stefanescu discussed the causes, prevention, and treatment of immediate, early, and delayed undesired reactions to intensive arsenical treatment of syphilis. He emphasised that the cause might lie in the toxicity of the drug, the method of application, or the intolerance of the subject, or in all three combined. Treatment should be guided by the previous condition, the reactions to previous injections, by whether the disease was recent, was fully active, and whether there was any indication of a reaction on the part of the nervous system or viscera. The urine should be examined before every injection, and special caution was necessary if it contained bile pigments, albumin, or much sediment. The injection should always be made extremely slowly, watching for the least untoward sign. The physician should keep a full record of these cases, and a solution of epinephrin should always be at hand to combat any signs of intolerance, as advised by French syphilologists.

Hygiene of the Roumanian Railways.

At a recent meeting of the Sanitary Board of the State railways the executive officer was instructed to draw up certain rules and regulations regarding car sanitation, these to be considered in conference with various railway officials and reported on at the next regular meeting of the board. In carrying out the inquiry, four points were emphasised by the Sanitary Board—namely, sufficient amount of fresh air properly distributed, cleanliness of the car, including water-closets, the proper heating of the car, and overcrowding. The Board also inquired whether the foregoing points had received sufficient consideration from the private companies owning railways in Roumania, and the question was asked whether the Board should undertake to secure better sanitary conditions by formulating certain regulations. Circular letters have been sent out to a number of leading medical men, and the character of the replies will influence the Board in its decision.

Prevention of Malaria in Albania and Montenegro.

A Bucharest medical journal reported recently on the sale and distribution of quinine in Albania and Montenegro as a prophylactic against malaria fever. The chief medical superintendent in Albania accepts the principle that quinine should not be distributed at

public expense save in charitable dispensaries unless this measure is necessary to combat a severe epidemic of malaria. From past experience it is calculated that every 100,000 persons would require from 75–100 kg. (165–220 lb.) in such an emergency. As regards the distributing agency, he desires the hearty coöperation of every official, but for systematic distribution during a severe epidemic a non-official agency must necessarily be utilised, and in this matter the district boards are primarily responsible. Instructions are given for carrying out this systematic distribution of quinine. It is considered that, except in the case of a severe epidemic, the best method of making quinine readily acceptable is by the extension of the money-unit packet system.

Effect of Salt and Sugar on Diuresis.

Dr. Sadengeanu has repeated the experiments which were first made by Brunn in Germany for ascertaining the effect of common salt on diuresis. He remarks in an article in one of the Roumanian medical journals that with greater knowledge and better appreciation of factors outside the kidneys, which bear on secretion of urine, the problem of diuresis has become not only more complicated, but has also increased in importance both from the physiological and the pathological standpoint. As the result of his experiments he thinks we must modify our views in regard to the effect on diuresis of sodium chloride. His experimental subjects were given, in bed, one litre of water at 8 A.M. The urine was collected every half-hour until 12 o'clock, measured, tested for specific gravity, and the total amount of sodium chloride secreted during the four-hour period was determined. When one litre of tap water was given, more than the amount of fluid ingested was secreted in three hours. When distilled water was substituted, diuresis was not only not checked, but seemed rather more rapid. When 3 g. of sodium chloride were added, not quite the whole amount of fluid ingested was secreted in four hours. With 6 g. added, not more than eight-tenths of the fluid intake was secreted within the urine. With from 9–12 g. added, only 50 per cent. of the fluid ingested was secreted within four hours; with 24 g. only 33 per cent. In spite of the greatly increased sodium intake, the amount of sodium chloride secreted in the urine in the four-hour period was never much increased and was often decreased. With the addition of 12, 18, and 24 g. of sodium bicarbonate, diuresis was checked in much the same manner as by sodium chloride. The addition of sugar to water always caused an increase of diuresis; 100 g. of sugar to 1 litre of water produced 1660 c.cm. of urine in four hours.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

A University Sanatorium.

ON Oct. 1st, 1922, a Swiss University Sanatorium (Sanatorium Universitaire) was opened at Leysin. The director and founder of this institution is Dr. Vauthier, who has advocated the idea for some years. In his first report covering the period from the opening till the end of 1923, he states that 46 students and professors have benefited by this institution. As far as is possible all the patients are engaged in some definite intellectual work, and Dr. Vauthier is well satisfied that such work at regular hours and in individually regulated amounts has never been unfavourable to any of the patients. On the contrary, it was found to have both a sedative and tonic action in giving the patients a saner and more balanced outlook and preserving them from the demoralisation of unemployment. The sanatorium has a good library of 2000 volumes, and in addition the patients have free access to the general library of Leysin which has 15,000 volumes. The sanatorium is regularly visited by professors of the different Swiss Universities, who usually make a stay of some days. During these visits they give lectures, and in private conversations they encourage the work of the sick students. With such resources the students of pure science, theology, law, and economy can make progress in their work. Students of applied sciences find enough theoretical work to keep them busy during 6 to 12 months. Medical students take the opportunity of studying tuberculosis, its diagnosis and treatment. They follow the courses of Dr. Rollier and his collaborators. Dr. Vauthier mentions that three of his patients have finished their theses, five are engaged in preparing theses, three have passed examinations after preliminary work in the sanatorium, and two have produced some special scientific work.

State Campaign against Tuberculosis.

The Bundesrat has lately demanded even wider financial credit for the needs of tuberculosis institutions and sanatoriums, although hitherto the astonishingly large expenditure of eight million Swiss francs (£320,000) per annum on these institutions has been covered by State loans. The following are the institutions, sanatoriums, and care centres which are subsidised by the State: 67 associations, leagues, and centres distribute yearly about one and a half million francs (£60,000) in anti-tuberculosis work. There are also 30 sanatoriums and preventive centres for adults, 21 sanatoriums and preventive centres for children, together with open-air schools, 55 pavilions and tuberculosis wards, including private children's hospitals. In connexion with these there has been opened, in the last few years, in addition to the University Sanatorium in Leysin, an institute for the study of tuberculosis and of physiology in high altitudes in Davos. This institute was founded by cantonal and local subscriptions, along with funds from various scientific societies and private generosity. Mention must also be made of the various care and help centres of the League for the Campaign against Tuberculosis in various cantons. These undertake to provide beds, clothing, provisions, and nursing equipment as well as money. This League also supports centres for advice and free medical inspection in a similar fashion to the welfare centres in England. The State proposes also in the next few years to further extend the subsidised "holiday colonies." This type of institution has been of great service, and statistics show that the children who spend their holidays in these colonies in the mountains require no medical attention for the next few years, and their powers of resisting infectious diseases are much increased. Another new institution is the Swiss Army Sanatorium at Novaggio, near Lugano, 644 metres above sea-level. This sanatorium is intended for convalescent tuberculous soldiers, no active tuberculosis being admitted. The sanatorium has 100 beds. The treatment consists in graduated regular work, chiefly agricultural. To the sanatorium are attached extensive farming grounds.

Criminal Abortion.

The question of criminal abortion is one which has been frequently discussed both amongst the profession and the public. In 1919, in the cantonal council of Basle, a Socialist amendment which demanded the abolition of punishment of criminal abortion was rejected by a small majority. The Swiss medical profession maintains in the majority that the unborn child must be protected by law. In one of its recent sessions the Medical Association of Zurich dealt at length with the subject. Two resolutions were passed. 1. Any practitioner who decides to induce artificial abortion is required to call in a colleague for consultation. The result of the consultation must be put down extensively in writing and such documents must be preserved by both practitioners for at least ten years. If for some reasons a second consultation is found necessary the statements made at the first consultation must be handed on to the second consultant. 2. In cases where medico-social or eugenic reasons play a part or when special difficulties arise it is recommended to consult a State-appointed health officer. In such cases the family or personal conditions of the mother ought to be thoroughly examined—e.g., by inquiry from the Poor-law authorities.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Paris Street Accidents.

WE who are used to the almost unchecked celerity of the French motorist even in the heart of Paris find the pace of the London taxi reminiscent of a slow-down cinema show, yet we have comparatively few accidents. Mr. Morain, Prefect of Police, has just come back from London, where he has been studying traffic problems, and where he has collected a tale of accidents that makes our flesh creep. He was told that during July, August, and September the London police had to attend to 22,351 street accidents, 196 of which were fatal. Paris, he says, does not produce such a list in a whole year. He admits, however, that Paris is susceptible of improvement in the matter of regulating its traffic, and he hopes shortly to introduce certain reforms such as removing railings where they are more obstructive than helpful, discouraging to the point of ultimate suppression the horse-drawn vehicle and hand-cart, providing better facilities for parking cars, improving the system of signalling to guide the traffic in the most congested areas, building subterranean and overhead passages, and discarding as far as possible the little sentry-box edifices which punctuate the open spaces of Paris with generous profusion. Doubtless these reforms will reduce our already low street accident rate, but we are still left wondering why our taxi rates and accident rates do not run parallel. Is it that the high speed of the Paris motor frightens the pedestrian off the middle of the street, making him take refuge on the inner half of the trottoir where a table and chair await him, or do the laws applying to street accidents discourage him from incurring them? For the Parisian knows well that if he is run over in the middle of the street by a car he will be prosecuted for obstructing the traffic.

Thermal Cures for Poor Children.

Dr. Sersiron, of La Bourboule, pointed out at the recent congress of pædiatrists the value of the French thermal stations for the treatment of poor children, and in particular the stations of Auvergne. On his recommendation the congress supported the proposal to institute pavilions in some of the French stations, aided by private enterprise and public funds, with the object of securing for poor French and Belgian children such hydro-mineral treatment as might be required.

"*Cancer Cures.*"

The Minister of Hygiene has recently lodged a complaint against certain medical institutes which promise by means of posters or advertisements the cure of cancer without operation. The Minister, who is President of the Franco-Anglo-American League against Cancer, is supported in his decision by the expressed opinion of the national and international congress of medical men, which is that the only chance of a cure in cancer is treatment at the outset either by surgical means, by excision, or by radium. He thinks that such advertisements which advocate medical treatment are dangerous in preventing early stages of cancer from obtaining adequate treatment. This measure has raised protestations in certain medical circles where it was thought that the doctor should remain free to look after his patients as he chooses, and according to his experience and his conscience. Such people also consider that there is no reason to limit initiative.

Preservation of Oysters by Super-Aeration.

In 1913 Dr. Gineste, of Bordeaux, proposed the super-aeration of oysters in order to purify them and preserve them, and recently Dr. Barbary, of Nice, Departmental Inspector of Hygiene, demonstrated to the Academy of Medicine the results of some experiments conducted under the Ministry of Hygiene. The experiments showed that super-aerated sea-water in specially constructed ponds was a medium in which healthy oysters could live free from all contamination and which, in addition, was a guarantee for the purity of the shell-fish. Dr. Barbary carried his experiments further and studied the action which super-aeration might have on pathological organisms existing in the molluscs. The oysters were sprinkled several times a day with water which contained more than 20,000 coli bacilli per litre and then they were transferred to the super-aeration ponds. The oysters got rid of the coli bacilli within six days when examined bacteriologically. It can therefore be concluded that oysters which have been contaminated by unclean water are mechanically cleaned and purified from pathogenic organisms at the end of six days. It is not a question of the destruction of the pathogenic organisms, but of their progressive removal by the mechanical effect of the aeration.

Doctors in Attendance at Theatre Performances.

There is a police decree, dating from 1908, according to which places of entertainment, catering for more than 800 persons at a time, must have a doctor in attendance. This decree has recently been challenged by theatre managers who have been wondering a little petulantly why such a precaution should be thrust on them, while it is not compulsory for train services and other undertakings which bring crowds together. The theatre managers' suggestion that doctors are superfluous on these occasions has been countered by the doctors themselves, who point out that in 1921 alone there were as many as 227 instances when the services of the doctor in attendance were required. These differences of opinion have recently been reviewed by the municipal authorities who are inclined to side with the theatre managers up to a certain point. It is suggested that instead of there being always a doctor on the spot, theatre managers should make arrangements with one or more doctors in the neighbourhood who would be prepared to come at once if summoned. In the case of evening performances there is already the excellent medical night service, an account of which has recently been given in THE LANCET. This service should, it is maintained, be sufficient to render the attendance of a doctor at every large theatre superfluous. The municipal authorities are also considering the advisability of theatres providing a first-aid outfit in the theatre premises.

A Ban on the Newspaper as a Food Wrapper.

Something of a flutter has recently been provoked in the Halles of Paris by the revival, from Oct. 1st of this year, of a decree dating back to 1912. This decree forbids the use of printed paper as a wrapping for the fruit and vegetables reaching the Halles. In a recent interview with the *Matin*, Mr. Montfort, President of the "Syndicat des Mandataires," has attempted to defend the use of the unsold newspaper as a wrapper for articles of food which must be cooked before it is eaten. This printed paper costs only from 30 to 50 fr. per 100 kilos, whereas new paper which has previously served no other purpose costs at least 150 fr. per 100 kilos, however inferior its quality. Were printed paper to be used for butter and similar foods, there might be some ground for protest, but Mr. Montfort can see no reason why the contact of printing ink with potatoes and carrots should be harmful, however evil may be the uses to which printing ink is put in other ways.

New Members of the Academy of Medicine.

At a recent meeting of the Academy of Medicine, in the section of Veterinary Medicine, Mr. Vallee was elected a titulary member in the vacancy caused by the death of a member. Mr. Vallee was formerly professor at the Veterinary School of Alfort, and is at present director of research in the Ministry of Agriculture. He is the author of several works on tuberculosis and foot-and-mouth disease. The new academician also invented, in collaboration with Mr. Leclainche, a serum against the infection of wounds. The Academy also elected, in the fifth division, two foreign correspondents — Sir John MacFadyean, of London, and Mr. de Jong, of Leiden.

Public Health Services.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

THE following table gives some of the principal health statistics for 1923 of four large towns, which are also shipping centres:—

Name of town.	Estimated (R.-G.) mid-year population.	Birth-rate.	Death-rates per 1000 of the population.				Death-rates per 1000 births.		
			All causes.	Tuberculosis.	Cancer.	Resp. diseases with influenza.	Neonatal mortality.	Infant mortality.	Maternal mort. from childbirth.
Bristol	385,600	19·3	11·7	1·2	1·4	1·9	28	62	3·1
Newcastle-upon-Tyne.	283,800	22·4	12·9	1·5	1·1	2·2	38	98	4·1
Portsmouth ..	230,718*	21·1	10·9	1·0	1·2	1·6	24	52	3·6
Cardiff	226,200	22·3	12·0	1·6	1·1	2·1	30	74	4·6

* Civil population, on which the death-rates are calculated. The estimated civil and military population, on which the birth-rate is based, is 252,300.

Bristol.

Dr. D. S. Davies reports that the most encouraging feature of 1923 has been the success attending the work of the trained nurses employed either in the infant welfare and maternity department, or in the work of home inquiry into the causation of disease, the latter duty being now entrusted to three "home nurses." He also thinks that the Bristol and Clifton District Nurses' Society has good claims for municipal support. Dr. Davies quotes with approval the opinion of Dr. Charles V. Chapin (U.S.A.) that hitherto we have attached too much importance to the abatement of nuisances, to the comparative neglect of that class of work which carries advice into the home. The new houses erected during the year numbered 431, of which 88 were part of a municipal scheme. The report of the chief housing inspector shows that the position with regard to unfit houses is steadily becoming worse. There are hundreds of houses in Bristol, he says, which could be rendered fit by the provision of new roofs, floors, and windows, but few owners will face such expenditure. If these houses are allowed to become derelict, they will have to be replaced by new ones, which will cost £400 to £500 each, whereas an outlay of £100 to £150 would give them an additional 20 years' life. It is estimated that 1074 houses will be required annually for the next five years to overtake arrears, and until this is done slum houses and slum areas cannot be dealt with. Dr. Davies insists upon the importance of the provision of wholemeal bread for poor children who have not the advantage of a generous mixed diet. Owing to four fatalities caused by gas poisoning in connexion with bath geysers, the Bristol Gas Company have issued a memorandum to the public insisting upon the necessity for a flue being provided for every geyser, with effective means for the prevention of down-draught, and also for the need of a sufficient air supply to bathrooms while the geyser is in use. Copies of the memorandum have been sent to the Bristol Master Plumbers' Association and the Association of Building Trades Employers. The Bristol Council has approved of an arrangement for the provision of 60 beds for surgical tuberculosis at the Treloar Home at Alton, and of 100 beds for early manifestations of tuberculosis in children at Frenchay, but both these schemes have been delayed by the Ministry on the plea of economy. The hours of bright sunshine in Bristol during 1923 were estimated to be 1386.

Newcastle.

Dr. Harold Kerr says 1923 will long be remembered for the enormous demands on public assistance rendered necessary by the distress. In spite of the vast expenditure on relief the year's hardships have left their mark on certain sections of the people. There is a sinister increase in the notifications of tuberculosis. Atmospheric pollution, which in recent years has been showing steady improvement, increased substantially in 1923. Since the beginning of July sunshine records have been kept at the Armstrong College, and only 513 hours of sunshine were recorded during the latter half of the year, to be compared with 725 at Cockle Park, a few miles north of Morpeth. The preliminary data in the cancer survey suggest that operative treatment is resorted to later in Newcastle than in other big cities. The occurrence of a case of small-pox in another district in the family of an assistant at a large Newcastle drapery establishment led to all the employees being vaccinated, and the example of this firm was followed by others. Mussels were suspected of causing a case of food poisoning, but the chief sources of the mussels eaten in Newcastle—namely, the Solway Firth and Holland—are certified to be safe, and bacterial examination did not indicate harmful contamination. The specialist services for the treatment of nose and ear discharges occurring as complications of scarlet fever at the fever hospital were continued with satisfactory results. The advantage of this early thorough treatment is incalculable, and lessens one of the well-known problems of education departments.

The attempt to get in touch with defaulting patients of the V.D. clinic by means of letters has been found impracticable, and has been reluctantly discontinued. There is a lack of hostel accommodation for girls and unmarried mothers infected with these diseases. During the last four years there has been a steady decline in the small number of infant deaths certified as due to syphilis. There has also been a decline during the same period in the notified cases of ophthalmia neonatorum. Of the 256 registered blind persons in Newcastle, 57 are said to have been blind from birth, but there is only one blind child under 5 years of age. Both measles and whooping-cough were rampant during the year, and counterbalanced the saving of infant life in other directions. There is much room for improvement in the attendance of expectant mothers at the antenatal sessions. Only 281 sought advice, while 6961 births were registered during the year. In the late autumn the Maternity Hospital which bears her name was opened by Princess Mary. When complete this institution will deal with every aspect of maternal and infant welfare. It is a voluntary institution containing 90 beds for patients, with accommodation for six medical students and 30 student midwives. Provision will also shortly be made for an up-to-date maternity and child welfare centre, an antenatal clinic and wards for wasting infants. Of the births in the city in 1923, 28 per cent. were attended by doctors, 36 per cent. by the maternity hospital, and 35 per cent. by midwives practising privately. Of the latter all but seven are certified by examination.

The pneumothorax method of treating pulmonary tuberculosis is used considerably both at Barrasford Sanatorium and at Walker Gate Hospital. Dr. C. G. R. Goodwin, the superintendent of Barrasford, states that this form of treatment is of very great value for a small proportion of the patients. It would be more useful still if it were possible to persuade the patients to undergo the treatment at an earlier stage of the disease. During 1923 the treatment was adopted in 22 cases out of about 200 patients at Barrasford. In the case of 11 the treatment failed to control symptoms, but in the other 11 the results were excellent. The new and efficient X ray plants recently installed at Barrasford and Walker Gate were of great value in controlling this treatment and also for diagnostic purposes. Dr. Goodwin emphasises the need for colony treatment after the sanatorium. He points

out that the class of patients who receive permanent benefit at Papworth Colony are in the main similar to the class passing through Barrasford, but the cases from Barrasford too often return to bad conditions and relapse. He hopes that Newcastle-on-Tyne will give the lead to other municipalities and establish a colony.

The education committee has now established an open-air school for pre-tuberculous children on the corporation Pendower housing estate. Excepting for a small number of beds at Stannington Sanatorium the problem of surgical tuberculosis in children has not been tackled. A comprehensive scheme for a new abattoir with markets, &c., which is badly needed, is now under consideration. Dr. Kerr draws attention to the fact that the penalties imposed for the adulteration of milk are not such as will serve as deterrents. Rather better progress has been made in the conversions of pail closets and middens, but "there remain," says Dr. Kerr, "4310 of these abominations in the city." Very many more houses are necessary to meet immediate needs. Overcrowding is the rule and subletting still rife, and one constantly comes across the most heartless cases of profiteering at the expense of the unfortunate tenants of so-called "furnished" lodgings. The committee has under consideration the question of appropriate by-laws for dealing with this question. Schemes for dealing with two unhealthy areas have been decided upon, and will be proceeded with when the housing committee has made provision for the dispossessed occupants.

Portsmouth.

Portsmouth may call itself happy with an infantile mortality-rate of 52 and a sunshine record of 1770 hours in a comparatively sunless year. Dr. A. Mearns Fraser informs us, however, that the housing difficulty still remains unsolved, and that the annual provision of new houses is still much below the normal. The health committee endeavoured to get an additional 100 houses for working people built on Portsdown Hill, and offered free sites to builders with roads and sewers already constructed. This represented a subsidy of £88 per house, but there was no response. During the present year a scheme more acceptable to the builders has been devised, and a tender for the 100 houses accepted. Towards the end of the year a tender was accepted for the erection of the first four blocks of flats on the Voller-street unhealthy area. Difficulties arose and the tender was withdrawn, but it is hoped that the blocks will be completed during 1924. The death-rate from pulmonary tuberculosis was the lowest on record. As is well known, Portsmouth has adopted the policy of recommending immediate self-disinfection after exposure to the risk of infection for the prevention of venereal diseases. It is difficult to estimate the effect of this policy, as no information is available as to men who have exposed themselves to the risk of infection, practised immediate self-disinfection and subsequently escaped disease. Of 97 male patients questioned at the V.D. clinic, only 16 had adopted self-disinfection within 10 minutes of exposure, 19 had practised some form of self-disinfection within one to three hours, and 14 at some later period still. Dr. Fraser favours propagandism as to the advantages of the early surgical treatment of cancer, and does not fear that such a campaign would give rise to cancer phobia.

The public analyst, Mr. R. P. Page, gives some particulars as to the testing of designated milks. From January to June, 27 informal samples were taken, out of which only 12 came up to the necessary standard. After this preliminary period formal samples were taken. Out of six samples of "certified" milk one failed to reach the standard, and all six were poor in fat. Thus one sample contained 3·3 per cent., two 3·2 per cent., one 3·15 per cent., one 3·1 per cent., and one 3·0 per cent. Of 13 samples of "Grade A" milk, all reached the standard as regards the number of bacteria, but five out of the 13 failed to secure the absence of *Bacillus coli* in 0·01 c.cm. Mr. Page compares these "Grade A" samples with ordinary milk supplied to local institutions. Of six samples of the latter only one reached the standard as regards the absence of *Bacillus coli*, and Mr. Page repeats the recommendation that hospitals and other municipal institutions should, in future, only accept tenders for "Grade A" milk, so as to create a greater demand for an improved milk-supply. His results "also show that the standard of 200,000 bacteria per c.cm. is vastly in excess of what a milk, produced under normally sanitary conditions, should contain."

Cardiff.

Dr. Ralph M. F. Picken points out that, while the death-rate from all causes has declined during the present century, the death-rate from pulmonary tuberculosis is rather higher during the second decade. A chart is submitted showing that the percentage of total deaths attributed to this cause has gradually increased during the present century from the neighbourhood of 18 to 19 to the neighbourhood of 21 to 22. Dr. Picken's investigation with regard to the effect of overcrowding and bad sleeping accommodation gives a negative result, and he expresses the view that the economic factor takes precedence of housing as the great predisposing cause of tuberculosis, and that the difficulty of securing adequate subsistence at the present time is the likeliest reason for the relatively increased part which tuberculosis is taking as a cause of death. With regard to venereal diseases the most urgent problem is the failure of a large proportion of innocently infected women to attend the clinic. The committee has therefore approved the principle of treating pregnant women, nursing mothers, and children at special clinics arranged under the maternity and child welfare scheme. The obstacles to the full development of antenatal work have been under consideration during the year. Hitherto there has been overlapping between the antenatal clinics of the committee and of the maternity hospital. Dr. Picken reports that a satisfactory scheme has now been evolved, by which a central antenatal clinic will be established at the maternity hospital, which will be conducted by the honorary medical staff of the hospital. The municipal maternity and child welfare officer, assisted by the health visitors, will be associated with the work of the clinic, and antenatal clinics will be opened on the outskirts of the city which will act as feeders to the central clinic. The corporation will accept responsibility for the maintenance in the hospital of Cardiff cases, recognised to be complicated, up to a cost of £2000 for the first year's working. Effective arrangements will be made for the interchange of reports between the antenatal clinics, the hospital, and the clinics for mothers and children. The clinics for mothers and children will be available for the teaching of students and pupil-midwives. The scheme is at present under the consideration of the Ministry of Health. The examination of milk samples indicates that an improvement is taking place. Thus, of 162 samples of ordinary commercial milk 62 per cent. reached Grade A standard, as compared with 54 per cent. in 1922, and during the hot months 43 per cent. reached Grade A standard, as compared with 11 per cent. in 1922.

There has been some discussion in Cardiff as to the relative advantages of destructors and tipping. Dr. Picken points out that by careful management most of the nuisances attributed to tips can be got over, and sums up: "I have no hesitation in saying that, in a place like Cardiff where there is so much land to be reclaimed, tipping is the best method, provided the tips are properly managed." In a special report to the Burial Board on cremation, Dr. Picken mentions that there are religious objections to cremation on the part of Roman Catholics and Jews, who constitute about 15 per cent. of the population. The remaining 85 per cent. of the people are deterred partly by inherent conservatism, and partly by the increased cost and the necessity for certain legal formalities. A table is given showing that the number of crema-

tions in Great Britain increased gradually from 341 in 1898 to 1023 in 1911, and to 2009 in 1922. It is obvious, says Dr. Picken, that the provision of a crematorium in Cardiff will not materially relieve the Board from the task of providing burial grounds in the near future. The open-air swimming ponds at Llandaff and Splott have been well patronised. The Llandaff pond, however, became very unsightly, and Dr. Picken considers that continuous filtration is necessary to make this pond the attraction and educative factor which it ought to be. Towards the end of the year a deputation visited certain large cities in connexion with the proposed reconstruction of Roath market and abattoir, and the city engineer has been asked to prepare plans based on the experience gained.

Dr. Picken does not think the extension of the city, which has added a population of about 20,000, has materially altered the housing problem. About 6000 (if possible 10,000) houses are needed during the decade 1921–31. Only 448 were built last year. Many instances of overcrowding come under notice, of which some examples are given. The record of bright sunshine for 1923, taken at Penylan, was 1555·5 hours.

MENTAL HOSPITALS SERVICE.

THE annual report for 1923 of the *Kent County Mental Hospitals* refers to the work of the two large institutions at *Barming Heath* and *Chartham Down*, accommodating 1700 and 1100 patients respectively. Both, unfortunately, are threatened with overcrowding; in this connexion an extraordinary discrepancy between the admissions in the two sexes at Barming Heath is worth noting, the numbers being 144 males and 236 females. In both hospitals there has been entire freedom from dysentery during the year, and in both success has attended efforts at granting patients more freedom; at Barming Heath 650 patients are in "open-door" wards, and many are allowed parole. The fact that these hospitals are not regarded as "prisons" is evidenced by several applications for voluntary admission, which, of course, in the present state of the law, have to be refused. There are several curious discrepancies not easily understood when it is remembered that these two hospitals are controlled by a single committee. For example, Barming Heath possesses an occupational teacher, and a "sister tutor," whose efforts have been rewarded by a very creditable number of successes in the nurses' examinations; at Chartham there are no such officers, nor are there facilities for giving continuous baths, such as have been installed at Barming Heath. Chartham, however, has the advantage in two respects—namely, in the provision of ward letter-boxes and of night-dresses for the women, neither of which amenities have yet been introduced in the sister institution. If these things are necessary in one hospital, they must surely be so in the other. The visiting Commissioners to Barming Heath also suggest the provision, when feasible, of an additional medical officer, a clinical laboratory, a nurses' home, verandahs, and a clinical room for interviews with patients. In this hospital the practice of staffing male wards with female nurses is being extended, and an enterprising spirit is shown in the fact that "arrangements have been made for special leave to be given to selected nurses in order that they may undergo training in a general hospital." The Christmas service in the chapel of this hospital was attended by no less than 500 of the general public, who subsequently visited the wards; the extension of this excellent practice might well lead to a better understanding by the public of the work of the mental hospitals.

Certain recommendations are made by the visiting Commissioner in the annual report of the *Devon Mental Hospital*, of which a number have already been carried out, the visit in question having taken place early in the year. He suggests the provision of an operating-theatre (the plans for this have now been drawn), ward letter-boxes, and improved sanitary arrangements (these have since been provided), and a more varied dietary, to which attention has also been paid. He also criticises the practice of sending patients out on trial without money allowances, and the provision to the wards of large stock bottles of aperients, to be administered at the discretion of the nurses and attendants. Tuberculosis appears to be unduly prevalent in the hospital, the deaths per 1000 from this disease numbering 26, as against 11·8 for all mental hospitals. Efforts are being made to grant as much freedom to the patients as possible, and these have been attended with success, but a type of difficulty sometimes encountered is illustrated by the case of "a man who has made no less than three attempts at escape since being sent here from Exeter prison 22 years ago. He is of the moral imbecile type, for which nothing but strict discipline is of any avail, and who will always take liberties whenever vigilance is relaxed. It is this class of case which will always hinder the development of the hospital atmosphere if sent to these institutions, and I hope the time is not far distant when some other provision can be made for them. The fact that they come from prison also adds to the stigma which still attaches to mental hospitals, and which it is our earnest endeavour to remove." The report of the recently appointed medical superintendent, Dr. Richard Eager, contains an account of numerous changes in the organisation of the hospital making for efficiency and economy; this should be of considerable interest to the authorities of other such institutions. The introduction of daily diet-sheets, for example, has resulted in the saving of 7140 ordinary diets, which would otherwise have been issued for patients unable to partake of them. The issue of bedding and clothing from the laundry in immediate exchange for soiled articles, stocks being kept there instead of in the wards, has been found to save much time previously spent in marking and sorting, and to obviate the waste of materials which used to occur from the deterioration of unused ward stocks. Rags and waste paper are collected and sold, aluminium is being substituted for earthenware in certain often-broken crockery, such as pie-dishes, and the cleaning of the wards, the supply of tooth-brushes, and the disposal of soiled linen have also been altered. A laboratory has been equipped. The recommendations of the Mental Hospitals Association that increases of pay and bonuses should be given to nurses passing the examinations of the Medico-Psychological Association have been adopted. Nurses are encouraged to make notes on the cases under their charge. The hospital is fortunate in possessing a considerable amount of surplus accommodation.

The annual report of the *Nottingham City Mental Hospital* differs from many other such reports in containing a separate section dealing with mental deficiency. A total of 118 cases has been reported by seven different agencies during the year; there are, therefore, ample facilities for ascertainment. It has been strongly recommended that an institution with at least 300 beds shall be built by the city for the accommodation of its defectives. At present there are 78 cases in various other institutions (including a number of boys at the mental hospital, some of them being warded with men, which is an unsatisfactory arrangement, and some undoubtedly capable of benefit by proper training), 13 cases under guardianship, and 338 under supervision. If the intention of building this institution be carried out, Nottingham will be particularly well equipped for dealing with mental deficiency. Unfortunately, the hospital itself is overcrowded (to the extent of 69 patients), in spite of the boarding out of a number of Nottingham patients in other hospitals, and it is hoped that the provision of the necessary further accommodation may take the form of a detached admission hospital and villas for convalescent cases. It is already intended that a nurses' home and an assistant medical officer's house shall be built. It is observed by the visiting Commissioner that the number of deaths from tuberculosis during the year is almost exactly the same as the number of cases of this disease reported as under observation about a

year previously, which "suggests that still further efforts are needed in the direction of diagnosis in the earliest stages." To meet this need he suggests a thorough annual physical examination of every patient, and periodical records of weight, and to combat the disease itself the more liberal use of eggs, milk, and butter in the diet of debilitated patients. The present ascertained cases are being treated on verandahs day and night. Certain suggestions are also made as to employment, the returns under this head being below the average. Money allowances are made to patients on trial. It is also observed that Service patients dine apart from the rest of the inmates.

The annual report of the *Glamorgan County Mental Hospital, Bridgend*, an institution accommodating over 1700 patients, is unusually brief, and includes no visiting Commissioner's report. The only important change in contemplation is the erection of a separate reception block, and a house for convalescent patients; the plans for the latter have already been approved by the Board of Control. A permanent fifth assistant medical officer has been appointed. The engineer has installed an X ray apparatus, and operates it himself with considerable success—surely a very enterprising departure for such an official. Many patients are now allowed to remain up until 10 P.M., and in the summer some are allowed out in the grounds until 9.30, two privileges which are much appreciated and rarely abused. It is of interest that the average gain in weight of recovered cases on discharge is as much as 14 lb.

The report of the *Roxburgh District Board of Control* is concerned with the affairs of one mental hospital, which at present accommodates about 350 patients, 60 less than in recent years, owing to the return of a number of patients to Edinburgh on the reopening of the mental hospital there. No changes are recorded beyond the reconstruction of one of the female wards. It is suggested by a visiting Commissioner that the verandahs should be widened to permit of beds being moved out on to them, and that the female nursing staff, who at present take their meals in the main dining-room before or after the patients, should be provided with a separate mess-room of their own.

INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDING NOV. 8TH, 1924.

Notifications.—The following cases of infectious disease were notified during the week—namely: Small-pox, 71; scarlet fever, 2106; diphtheria, 1066; enteric fever, 59; pneumonia, 985; puerperal fever, 38; cerebro-spinal fever, 5; acute poliomyelitis, 30; acute polio-encephalitis, 2; encephalitis lethargica, 45; continued fever, 3; dysentery, 2; ophthalmia neonatorum, 106. There were no cases of cholera, plague, or typhus fever notified during the week.

Deaths.—In the aggregate of great towns, including London, there were 4 deaths from enteric fever, none from small-pox, 14 from scarlet fever, 43 from diphtheria, 26 from measles, 53 from influenza. In London itself the number of deaths from diphtheria was 13 and from infantile diarrhœa 14.

ROYAL SOCIETY.—The following Fellows have been recommended by the President and Council for election to the Council of the Society. President, Sir Charles Sherrington. Treasurer, Sir David Prain. Secretaries, Mr. W. B. Hardy and Mr. J. H. Jeans. Foreign Secretary, Sir Richard Glazebrook. Other members of Council: Sir Frederick Andrewes, Prof. J. H. Ashworth, Dr. F. W. Aston, Sir William Bragg, Prof. S. Chapman, Sir Dugald Clerk, Dr. H. H. Dale, Prof. F. G. Donnan, Prof. A. S. Eddington, Prof. E. S. Goodrich, Sir Thomas Holland, Prof. J. B. Leathes, Prof. T. R. Merton, Dr. G. C. Simpson, Prof. J. F. Thorpe, and Prof. F. E. Weiss. The Earl of Crawford and Balcarres and Sir Otto Beit have been elected Fellows of the Society under the statute which permits of elections on the grounds of conspicuous services rendered to science.

DENTAL BOARD OF THE UNITED KINGDOM.

THE opening of the seventh session of the Dental Board was held on Nov. 11th. The members present were Mr. F. D. Acland (Chairman), Mr. R. C. Ackland, Mr. W. F. Bowen, Mr. L. G. Brock, Mr. F. Butterfield, Mr. W. H. Dolamore, Mr. H. J. Waring, Mr. W. Guy, Sir James Hodsdon, Mr. A. Young, Mr. J. J. Andrew, Prof. T. Sinclair, Mr. J. H. Stirling, and Mr. Norman C. King (Registrar).

THE CHAIRMAN'S ADDRESS.

The Chairman, in his opening address, paid a tribute to the work of those members of the first Board who had not been re-elected: Sir Arthur Chance, Mr. E. L. Sheridan, Mr. W. H. Gilmour, Mr. H. A. Robertshaw, and Mr. D. McG. Cowan. In their place he welcomed Prof. Sinclair, Mr. Andrew, Mr. Ackland, Mr. Bowen, and Mr. Young. Continuing, he said that when the new Dentists Acts were under consideration in the House of Commons he gave an undertaking that the question of the annual practising fee should receive careful consideration. A special meeting of the Board was held in October at which this formed the principal item of business, and the decision of the Board, which was unanimous, was that no alteration in the present fee of £5 should be made until there had been further experience of the claims likely to be made on the Board's funds. It was realised that in these times some members of the profession might well have difficulty in paying a comparatively heavy annual fee, and the question of reduction would not be forgotten.

The Departmental Committee, in view of the monopoly of practice which was to be given to dentists, were of opinion that it would not be unreasonable to expect them to give some assistance to persons who were prevented from entering the profession from want of means, and this the Board had endeavoured to do by providing bursaries, which, in really necessitous cases, provided not only for the necessary fees, books, and instruments, but also for maintenance during the curriculum. These bursaries were brought to the attention of the education authorities throughout the kingdom by means of a circular letter, but the applications had not been so numerous as might have been expected, and so far the Board had not been obliged to refuse any applications owing to want of funds. There was probably, he said, at the present time no other profession in the country into which a student who was qualified to take advantage of professional training might obtain entry practically without any cost to himself, and it might be hoped that the education authorities would continue to bring before their students the advantages offered by the Board.

Free Choice of Dentist.

Many communications, said Mr. Acland, had reached the Board with regard to the action of approved, coöperative, and other societies which, in providing dental aid for their members, did not allow a free choice of dentist. The Board were of opinion that patients should be allowed to select the practitioner whose advice they desired to seek, provided the dentist was prepared to enter into the arrangements made by the society for remuneration. Numerous complaints had, however, been received that the patients of one practitioner had been, through the agency of a society, transferred to another, but it was difficult for the Board to take action except upon a definite complaint that whatever had been done on behalf of a practitioner, or practitioners, amounted to advertising or canvassing. Were such a complaint made, the speaker was sure that the Board would be willing to adjudicate upon it.

The Board considered it highly desirable that the attention of the public should be called to the great importance of the care of the teeth, and with this object they had in preparation kinema films which might be utilised by medical officers of health and others for teaching this subject, and an endeavour

was to be made to have them displayed also at the kinematograph theatres. With the assistance of Sir George Newman, it was hoped to arrange for short talks to be broadcasted from time to time, and communications had been entered into with approved societies to endeavour to enlist their coöperation so as to cover the very important period between school age and that of persons coming under the Insurance Acts—viz., the age between 14 and 16. Other methods of teaching oral hygiene were also under consideration, and the Chairman considered this to be one of the most important parts of the Board's work.

Advertising.

The Board had expressed their disapproval of any announcements which were more than sufficient to indicate to persons seeking them the exact location and entrance to the premises at which the dental practice was being carried on. At the present time the correspondence in connexion with this matter was very heavy, and though considerable diminution of the evil was taking place, many practitioners appeared to be keeping up as much of their announcements as they thought they could safely retain, in the hope that, before any drastic action was taken, they would receive a warning, and that in the meantime they would reap such benefit as might be from their improper actions. The Chairman feared that some of them might realise, if their names were removed from the Register, that they had taken a mistaken view of the position.

Practice by Non-registered Persons.

In the course of this year, by permission of the authorities, communications had been addressed to chief constables throughout the kingdom, asking for their coöperation in carrying out the provisions of the Dentists Act, 1921. They had been supplied with copies of the Register, the local lists, and the names of those persons who had not taken out their practising fee. The report of the Discipline Committee showed the very satisfactory result of this action. Without exception the police had been most helpful. In some cases the police had undertaken the prosecutions themselves; in others they had supplied evidence and the Board had taken the necessary action. It was proposed to continue the pressure next year, and the Board hoped that before very long it would be impossible for any unregistered person to contravene the Acts without being swiftly brought to book.

RESTORATIONS TO THE REGISTER.

The Registrar reported that, the prescribed conditions having been duly fulfilled in each case, the names of the undermentioned persons had been restored to the Dentists Register, from which they had been erased in conformity with the provisions of Section 12 of the Dentists Act, 1878: Arthur Bolton, Arthur Reginald Colyer, Thomas Elliott, Henry Kirk, Edwin Morgan.

DISCIPLINARY CASES.

The Board resumed the consideration of six cases adjourned from the previous session. Two were concerned with registered dentists who had associated themselves with corporate bodies carrying on the business of dentistry and advertising with a view to procuring patients, and three were cases of advertising, by individual dental practitioners, by means of electric and other signs exhibited on their premises. In all the cases the Board decided that while they were determined to press forward quite steadily with the work of securing that announcements of dental practices should not be more than would be considered reasonable and proper in connexion with other professional practices, they would nevertheless not recommend the removal of the names of the persons concerned from the Dentists Register. In one case where the dental practitioner had been convicted at a police court for the misdemeanour of indecent exposure, the finding was that the name should not be removed from the Register.

Fourteen new cases were dealt with during the remainder of the first meeting of the session and at the meeting on the following day. Six of the cases were concerned with advertising. In four the finding of the Board was that the names of the dental practitioners involved should not be removed from the Register, and in two the finding was postponed until the next session. There were two cases of false entry in the Register. In the first, the dentist had stated he was engaged in the practice of dentistry as required by the Dentists Act of 1921, whereas he had been in receipt of unemployment benefit. This case was adjourned. In the second, the dentist had made a false declaration of his age; in this case the Board directed the erasure of offender's name from the Register. Two cases of police-court conviction, one for fraud and one for drunkenness, were adjourned. In three cases the names of dental practitioners were removed from the Register, where the offenders had been convicted in the police courts on the following charges, respectively: (1) Ten charges of fraud; (2) living on prostitution and theft; (3) embezzlement and obtaining money on false pretences. For covering an unregistered person in dental practice, the offender's name was removed from the Register. In all, five names were erased.

A NATIONAL SERVICE OF MENTAL NURSES.

SINCE March, 1922, a Departmental Committee of the Board of Control has been deliberating, under the guidance of Dr. C. H. Bond as chairman, on the directions in which the nursing service in county and borough mental hospitals could be improved. Its members include two medical superintendents (Dr. G. F. Barham and Dr. H. Wolseley-Lewis), two representatives of visiting committees (Mrs. Edith How-Martyn and Mr. E. A. Medus), a Commissioner of the Board of Control (Mrs. Hume Pinsent), a matron of a mental hospital (Miss M. M. Thorburn), and members of county and borough councils (Dame Louise Gilbert Samuel and Mr. E. Sanger), with Mr. H. J. Clarke, of the Board of Control, as secretary. Twenty-four meetings have been held, excluding meetings of subcommittees; 12 witnesses have been examined, including a Commissioner of the Board of Control, medical superintendents, members of the General Nursing Council, matrons, and male nurses; moreover, numerous conversations have been held with nurses working at mental hospitals, from whom, as from others, written communications have also been invited.

The report [1] just issued by the Committee is at once temperate, wise, and suggestive. The outline set out early in the report of the principles agreed on by all the members as a foundation on which to build their labours is a useful guide to the point of view from which the subject was approached. The main difficulty which, though not specifically set out, must have modified the conclusions and recommendations arrived at, is that improvement of the nursing service in quantity as well as quality of applicants for training is desired, and that, unless most carefully planned, a recommendation designed to achieve one of these ends may seriously damage the others. For example, the quality of the end-product—the trained mental nurse—may be definitely improved by insisting on a high standard of preliminary education and on the attainment of the certificate of the Medico-Psychological Association; these requirements might have the effect of discouraging probationers of a less ambitious but potentially useful class.

On the whole the recommendations have been well framed to avoid this dilemma, and where any conflict

[1] Report of the Departmental Committee appointed to inquire into the Nursing Service in County and Borough Mental Hospitals. London: H.M. Stationery Office. 1924. 1s. 3d.

of aims arose, the Committee in every case adopted the high ideal of attempting to improve the quality of the service in the hope that increased status and emoluments of trained mental nurses will make the career attractive to a greater number of educated women.

Grading in Hospitals and Nursing Establishments.

The Committee urge that the nursing service in county and borough mental hospitals should be organised and developed on systematic national and professional lines. To this end mental hospitals should be graded according to adequacy of facilities for training nurses, and individual nursing establishments in accordance with a scheme bringing the nomenclature and status of the higher grades into line with that customary in general hospitals.

Reciprocity Between Hospitals.

Reciprocity for training purposes between mental hospitals of different grades and between each mental hospital and a general hospital is regarded as essential. This organised coöperation is indeed a cardinal feature of the scheme outlined and is a valuable suggestion. It is considered of extreme importance that the facilities already existing in some places for seconding mental nurses to general hospitals should become universal and that authorities should encourage trained mental nurses to take a general nursing certificate, which they can obtain by two years work in an approved general hospital. Conversely, the establishment of training schools in mental nursing would serve as an added inducement for general trained nurses to gain experience of mental disorders and an understanding of elementary psychology, both normal and morbid, which will be found increasingly necessary in general nursing. The Committee feel that the existence of facilities for seconding mental nurses to general hospitals for training is so important that they hope such facilities may be found practicable without any interference with pay or superannuation allowances dependent on continuous service. The scheme of affiliation recommended has for its object the establishment of an organisation of hospitals for training purposes which will secure: (1) efficient and economical use of material and personnel; (2) uniformly sound training and the diffusion of technical knowledge and methods through the widest possible interchange; and (3) coördination between different branches of nursing.

Arrangements for Teaching: Hours of Duty.

As to the improvement of the teaching of nurses, several recommendations are made, including a period of initial tuition for probationers before any ward duty is assigned to them, the appointment of a sister-tutor at each hospital approved as a training school, the provision of annual refresher courses for certificated nurses, and such rotation of duties among sisters as would encourage those aspiring to the higher administrative posts. These, however, should for the most part be offered facilities for supplementing their mental training by two years in a general hospital, for the higher posts should be given only to those with a double training. Those of the present staff with good and satisfactory service, who are unable to obtain the mental nursing certificate, should continue to receive recognition and adequate status; they should be graded as attendants or charge attendants, and there should be a distinction in pay between them and certificated nurses, in favour of the latter. As for remuneration of nurses, it is held that the prevailing rates differentiate inadequately between the inexperienced and the trained personnel, and there is insufficient inducement to study and to advance in the service. The rates paid to similar grades throughout the country are held to vary unduly.

No rigid scheme as to hours on duty has been or, in the view of the Committee, could be laid down, but it is suggested that the aggregate of the hours on duty in one week, exclusive of meal times, should not exceed 56. When the hours exceed 48, four weeks' annual leave, preferably taken as two weeks every six months, should be allowed to all certificated nurses. Probationers under training should be allowed three weeks' annual leave.

Special nurses, to whom could be allotted the charge of any individual patient at the discretion of the medical staff, should be available.

The Financial Aspect.

Certain other recommendations are concerned with the means of attracting suitable applicants for training. It is believed that, with the institution of organised universal training and the creation of adequate prospects, the status of mental nursing will be considerably raised, and there will be less difficulty in the recruitment of suitable personnel. Inasmuch as training must entail some expense, the Committee are of opinion that probationers should be bound by agreement to remain for the full period of training.

This recommendation seems to us likely to defeat its object. Stress is laid on the fact that the nursing of mental patients should be looked on as a vocation and not undertaken lightly. The work is, however, difficult to visualise beforehand, and the dread of being pledged to remain in a mental hospital for three years' training for work which after trial may prove uncongenial is likely to prevent educated girls or their parents from considering this career. The actual cost of training would be equally wasted if the candidate were to stop nursing after having acquired her certificate and the only thing gained to the hospital might be three years of unwilling service. The Committee's further suggestion for meeting the cost of training of nurses is a sound one. Inasmuch as training schools will not and cannot be self-supporting institutions, and in view of the fact that it is of national importance to secure properly trained nurses for mental hospitals, the Committee is of opinion that a portion of the cost of maintaining recognised training schools should be met out of a Government grant, administered by the Board of Control.

Increased Powers for the Board of Control.

A strong appeal is made to visiting committees to give effect to these recommendations, and it is made clear that success of any such scheme depends on its adoption throughout the country. The appointment upon the inspectorate of the Board of Control of a doubly-trained nurse of wide experience and capacity, who would maintain close touch with questions of nursing in mental hospitals throughout the country, and be at the service of the various medical and nursing officials as an adviser, is suggested. At present too little coördination exists between the various local authorities controlling the mental hospitals throughout the country for them to develop a mental nursing service on a national basis. The suggestion which concludes this admirable report deals with this aspect as part of an even wider one. The Committee see a solution for this and other problems in enlarging the scope and extending the power of the Board of Control from that of an advisory body to that of a body responsible for administering a Government grant-in-aid. They say: "While the subject is not strictly within our reference, our inquiry has impressed us with the need for concentrating the responsibilities in connexion with mental health in one statutory committee of the county or county borough council. We are further of opinion that the cost of the maintenance of mental cases, at present defrayed by Poor-law authorities, should be a charge upon the county or county borough rate; and that a proportion of the cost should be borne by a Government grant distributed by the Board of Control with power for the latter to withhold it in cases of inefficiency."

It is likely that in this direction will be found the solution not only of the nursing, but of many other cognate problems.

Correspondence.

"Audi alteram partem."

THE ALLEGED STERILITY OF PRESENT-DAY BACTERIOLOGY.

To the Editor of THE LANCET.

SIR,—In a leading article in your issue of Sept. 20th your readers are informed that bacteriology is in a stagnant condition and that no discovery "of first-rate importance" has been made "for many years." Sentiments in surprisingly similar vein are expressed by Prof. A. E. Boycott in the course of his address at Montreal, reported in your issue of Nov. 15th. The undiscriminating reader must inevitably conclude that bacteriology is in a parlous state, but is there really the smallest justification for these gloomy views? When a writer uses the expression "for many years" we may assume that he means at least 20. Are there no discoveries "of first-rate importance" to catalogue to the credit of bacteriological science in that period? Perhaps I should avoid the word *science* at this juncture. Let me say "utilitarian bacteriology."

Since 1904 it has revealed the specific causes of syphilis, yaws, epidemic jaundice, and yellow fever, to mention only a few instances culled from human disease. It has gone far to elucidate the specific ætiology of poliomyelitis, typhus fever, trench fever, and quite recently of scarlet fever, while it has made possible the solution of many pressing epidemiological problems, such as the spread of typhoid and allied infections, of Malta fever, and of bubonic plague. Of the results of coöperation, in an equally utilitarian manner with its sister science, immunology, may I mention the Wassermann test, the Sachs-Georgi test, the Wilson-Weil-Felix test, the Schick test in diphtheria, and the Dick test in scarlatina? I need instance no more, as Prof. Boycott would doubtless class them as thoroughly third-rate, because utilitarian. To him they are finished, and consequently devoid of uplift and inspiration to the philosophic mind. By the same token, I presume, insulin would cease to inspire the physiologist and biochemist the moment it was found to possess some value in the treatment of diabetes. Let those who will or who cannot help it go on exploiting these discoveries in the cause of pathological diagnosis and public health. Scientific bacteriology must take no concern with them. It must develop and foster the study of bacteria for their own sake, whatever that may mean. It must find out how micro-organisms generally live, move, and have their being away from such contaminating influences as association with other living things, be they plants or animals. This, to Prof. Boycott, but I hope to few besides, is envisaged as a virgin field and should be handed over to the botanists who would then become the exponents of scientific bacteriology.

Well, if bacteriology was started on its way by a chemist of immortal fame and strictly utilitarian outlook, it, most fortunately for humanity, did not find a home in the botanical nursery. If scientific bacteriology is now to be nursed by the botanists I have no objection, but I am quite satisfied that the lack of the medical tradition, with its highly elaborated technical methods, will handicap them for many a day in their dealings with bacteria. Let me instance what is in my mind. In the field of systematic classification can the botanists afford to cling to old-fashioned morphological criteria and ignore the biochemical and serological elaborations of the "old hand"? Surely not. And have the old hands done really nothing in this academic field? To be sure they have. Unlike Prof. Boycott, enterprising spirits have found even the Wassermann reaction an inspiration, and have rightly studied its raison d'être as a pathological problem, not as a pathological curiosity as Prof. Boycott seems to regard it. Does it stand so unrelated? Have we not the Weil-Felix and possibly many other non-specific precipitation phenomena? Have we not also our exponents of bacterial cycles, nay even of theories of hybridisation in bacteria? That the work of these latter has so far cut but little ice is probably due to a combination of circumstances, among which exuberant imagination and inadequate technical training are pre-eminent.

I protest strongly against any insinuation that bacteriology has ever threatened to stagnate since those halcyon days of the 'eighties, when a man might immortalise himself any morning by finding a diphtheria bacillus or a trypanosome. We bacteriologists are the proud possessors of a superstructure of traditional knowledge and achievement that will inspire us to further endeavour for many years yet, but I should err if I were to assume that all is well and well-ordered in bacteriology. Our science has grown beyond all conception in recent years. No one man can keep abreast with its advances in animal and plant pathology, not to speak of its ramifications in diverse industrial fields. A survey of the labels on the culture tubes of the National Collection can but impress the expert in a branch with a profound sense of ignorance and humility.

Can anyone, then, dictate what particular feature of bacterial life and action is best worth study from the standpoint of academic culture? The recently instituted courses at Manchester and elsewhere will doubtless foster a broader outlook in bacteriology, but they cannot afford to lose the inspiration that our traditional and utilitarian bacteriology can give them. All success to them!

I am, Sir, yours faithfully,

J. C. G. LEDINGHAM.

Lister Institute, London, Nov. 17th, 1924.

DENTAL DRESSERS.

To the Editor of THE LANCET.

SIR,—The Secretary of the British Dental Association calls the Dentists Act of 1921 "a sacrifice" on the part of the dental profession. The Act has placed the dental profession in a position held by no other body of men, medical, legal, or industrial. Under the Act no one unless on the Dental Register may practise dentistry in any way. If a child has a loose shell of a temporary tooth and the mother, teacher, or nurse removes it with a piece of cotton, it "would render the operator liable to prosecution." If we doctors had a similar Act, the Jews could not perform circumcisions, the chiropodist could not cut corns, the profession of midwife would be abolished, and the Church and the Christian Scientists could not do their healing by faith.

The Act has placed the dentists in a privileged position, but there was one little section inserted for the protection of the public enabling "minor" work to be done in a public dental service under the personal supervision of a registered dentist, on conditions laid down by the Minister of Health. For years educated young women, specially trained in the detection and treatment of early caries, have been employed in Derbyshire, Shropshire, Sheffield, &c., under the supervision of the school dentists. Mr. Lindsay ignores the fact that these dental dressers are *trained* and passed by dentists. In my report (a copy of which I will gladly send to any of your readers) I give details of their training. If it is insufficient, by all means let us make it more thorough. The Minister of Health has power to prescribe the training. Let there be, too, an examination in the work they will have to perform. This is done in New Zealand; why not here? The work of our dental dressers has been examined by six eminent dentists, and no one has been able to detect any fault with it.

Now let us look at Mr. Lindsay's proposals. He writes: "The school nurse can by a glance into the mouth of a child and by one or two simple questions ascertain whether there is need for the child to go to the school dentist." This means that caries is to spread in the teeth of the school-children until a nurse can see a hole or the child has pain. This is all wrong.

By employing specially trained young women, expert with probe and mirror, we detect and refer to the dentists incipient caries at its earliest stage, when prophylactic permanent fillings can be inserted without pain. This is the bulk of the work; all doubtful cases the dentists deal with themselves. If dental dressers were permanently recognised we could employ more part-time dentists in private practice. If a dentist devotes his whole time to school work without the assistance of dental dressers, in a few years he will forget all the higher branches of his profession. The best men, recognising this, will resign, and only the indifferent practitioners will remain in the school dental service. Putting the whole of the work, including the inspections in the schools, on to dentists without the assistance of dental dressers would lead to an inferior type of practitioner, and the salaries paid would be small. But if a dentist had dental dressers working under him he would command a higher salary, and his work would be more interesting.

Mr. Lindsay's comparison of trained dental dressers with unqualified medical assistants is wide of the mark. The trained midwife reigns in the stead of the unqualified assistant, and in this county carries out 70 per cent. of the midwifery. If the British Dental Association had investigated what we are doing, I am sure Mr. Lindsay would never have written his letter. If they would do so now and they found our work is not of the highest professional standard, I will withdraw my advocacy of dental dressers. In my letter of Oct. 6th I pointed out the necessity for dental benefit being provided under the Insurance Act, that nothing is yet done for children under school age and for expectant mothers, and next to nothing for the tuberculous patients. All this work cannot be done unless trained dental dressers are employed working under the supervision of dentists.

Mr. Lindsay and I ought not to be engaged in wordy warfare, but should be putting our heads together to approach such agreement as might be of help to the Ministry in preparing a Public Dental Service in which those dentists in private practice who have the time may take part.—I am, Sir, yours faithfully,

Derby, Nov. 17th, 1924. SIDNEY BARWISE.

To the Editor of THE LANCET.

SIR,—The discussion of the dental dresser seems now to have reached essentials. It is the "dental hygienist" whom I would like to see acclimatised and given responsibility. This officer appears to be approved by Mr. Breese, and Mr. Lindsay says is sanctioned by Circular 1279. It is this circular which raises the administrative trouble, because it insists on the work being done under the eye of the dentist, thereby restricting the numbers and making it more costly. That is where the hold-up comes in the school dental work; and that is why the numbers of dentists on the Register were not germane.

The next question as to whether anyone can be trusted to do simple fillings, extract deciduous teeth, or 6-year-old molars one would think should answer itself. I believe that anyone, not a moron, could easily attain a satisfactory proficiency here with a special 12 months' training. It is certain that the majority of deciduous teeth will continue to be extracted in the absence of either a dentist or dental dresser. Although a caveat might be entered on behalf of the 6-year-old molar I would be disposed to go as far as Dr. Barwise, and trust it also to the dental dresser to handle or refer for further dental advice. It was the tooth whose fate first concerned me in school inspections 30 years ago. The consensus of various dental advisers then was that for board school children it was not worth troubling to do anything here but extraction, a counsel which never, however, commended itself. Within the past 12 months advice was given in a prominent discussion to remove adolescent 6-year-old molars for prophylactic reasons.[1] Evidently the confiding of these teeth also to the dental dresser does not involve disaster. Possible dangers must be absolutely negligible compared with the risks of midwifery where officials of a corresponding status act for the public advantage.

School hygiene in England has been in a condition of stasis for years now, with the exception of the beginnings and advance of this matter of dental hygiene whose promise is already great, so great that as soon as it becomes known the country will demand full care. So pressing is the need that it would be worth while establishing dental hygienists in responsible work under definite rules and control, and leaving the discussion of extractions over till prophylaxis by instruction and example has got well into action, the numbers requiring dental operative work will then begin to fall and the question may never arise. The immediate call is for removal of the hampering regulation of only working under the personal supervision of the dentist, and restricting the number who may so work. This circular practically puts the work as a matter of educational organisation out of court, reducing its volume to a fraction, apart from the unnecessary increase of cost.

I am, Sir, yours faithfully,

Mecklenburg-square, W.C., Nov. 17th. JAMES KERR.

[1] Brit. Med. Jour., Dec. 1st, 1923, p. 1044.

CANCER AND SOME OF ITS SIGNIFICANT CHEMICAL REACTIONS.

To the Editor of THE LANCET.

SIR,—I was most interested to read in your columns of Nov. 1st Mr. Archibald N. Currie's reply to my letter on the above subject, especially as we are more or less in agreement on the various points raised. There is, however, some little misunderstanding due probably to the rather vague way in which I expressed my experimental findings.

The importance of the rôle of cholesterol in the iodine values of fat in carcinoma cases was queried by Currie. I did not mean to imply that the increased unsaturation was directly proportional to the increased cholesterol content and a single example will clear this point. Using pure cholesterol from the human brain and pure triolein, an extreme mixture of 72·7 per cent. cholesterol with 27·3 per cent. triolein (i.e., 0·12 g. cholesterol and 0·045 g. triolein) had an iodine value of 65·5, a value which is considerably less than that of either cholesterol or triolein. This is, perhaps, not unexpected and is reminiscent of the phenomena seen in mixed melting points of substances. Nevertheless, the iodine value is greater than that given as "normal" for adipose tissue. Thus it appears that the amount of cholesterol present has a distinct bearing on the iodine value. Also from the intensity of colour in the Borchard-Liebermann test it is obvious that the cholesterol is not present wholly in the free state but a little is in the ester form—viz., as palmitate and oleate. An increase or decrease in the blood cholesterol is so influenced by a multiplicity of conditions, diet being the chief, that estimation of the cholesterol content cannot possess any diagnostic value. However, in the Shaw-Mackenzie serum test for cancer, cholesterol apparently does have a function.

With regard to the lipoclastic activity which was another point raised by Currie, it is generally recognised that the free fatty acids, whether saturated or unsaturated, are more utilisable by the tissues than are the fats themselves. Freund and Kaminer in 1913 found that there was a decrease in the fatty acid content of cancer serum as compared with the normal, and more recently Waro Nakaharo (*Journal of Experimental Medicine*, 1924, Vol. XL., p. 363) finds that oleic, linolic, and linolenic acids have a distinct immunising action against transplanted cancer in mice. Therefore, it seems possible that deficient lipoclasis may play a part in cancer.

I am, Sir, yours faithfully,

H. GORDON REEVES, M.Sc., A.I.C.

Department of Physiology, King's College, Strand, W.C. 2, Nov. 14th, 1924.

LABORATORY CHANGES AT A HOSPITAL.

To the Editor of THE LANCET.

SIR,—Our attention has been drawn to a circular sent to the medical practitioners resident in the N.W. district of London by the Secretary of the Hospital for Epilepsy and Paralysis, Maida Vale. This circular states that the committee of the hospital had now arranged its laboratory "with a biochemist and bacteriologist," and would be willing to undertake clinico-pathological examinations for the doctors in its neighbourhood. A list of fees for individual examinations was enclosed.

The secretary of the Maida Vale Hospital seems to have hit on an arrangement whereby the laboratory may appear on the "asset" side of the hospital balance-sheet; we think it is only fair to point out to the practitioners concerned that the arrangement has only been made possible in this instance by the elimination of the ordinary type of hospital pathologist. The laboratory staff of the Maida Vale Hospital consists at present of (1) an honorary pathologist, who is one of the junior honorary medical staff and who is also neurologist to a large teaching hospital, and whose time is therefore largely occupied with teaching and clinical work; (2) a graduate in science with some training in an asylum laboratory; and (3) other technical assistants. The description of the staff as including "a biochemist and bacteriologist" is therefore somewhat misleading.

We are, Sir, yours faithfully,

J. G. GREENFIELD.
DAVID NABARRO.
ALFRED PINEY.

London, Nov. 15th, 1924.

COMPLETE TRANSPOSITION OF VISCERA.

To the Editor of THE LANCET.

SIR,—Cases of complete transposition of viscera are not so very common, hence it seems desirable to record this. A Hindu boy, aged 8 years, attended the out-patient department of the Medical College Hospital for treatment of kala-azar. Palpation of the abdomen revealed a tumour in the right hypochondriac region, extending downwards and inwards to about the level of the umbilicus. This tumour had a splenic outline and there was a distinct notch in its anterior margin. The liver was felt in the left hypochondrium and was slightly enlarged. The boy was admitted into hospital on August 16th, 1924. X ray examination showed the heart on the right side of the chest. Skiagrams of the abdomen taken after a bismuth meal showed that the stomach was mainly situated on the right side of the abdomen with its cardiac end under the right cupola of the diaphragm, and the duodenal bulb on the left side of the middle line. The cæcum and the ascending colon were found on the left side. The descending and sigmoid colon was situated on the right side of the abdomen.

I am, Sir, yours faithfully,

N. C. KAPUR, M.R.C.S. Eng.,
Capt., I.M.S.

Calcutta Medical College Hospital, Sept. 30th, 1924.

QUININE IN CASES OF ERYSIPELAS.

To the Editor of THE LANCET.

SIR,—The use of Warburg's tincture in tropical countries for a large variety of ailments suggested to me the extended use of quinine in this country, and during the past 23 years I have substituted quinine for salicylate of soda and never regretted having done so. In cases of erysipelas quinine acts like a charm, the patients feeling so well generally that their sole desire is to resume their duties irrespective of appearances. The local lesion is treated by quickly brushing over the affected area (and 1 inch beyond, if possible) an application made up of one part of tincture of iodine to seven parts of Keith's anæsthetic ether, once daily. The general treatment consists in giving orally, every two hours, 10 gr. of sulphate of quinine undissolved, 10 minims of spirit of chloroform, and ½ minim of essence of peppermint in 4 oz. of cold milk. When the temperature and pulse become normal, or nearly so, reduce to every six hours. Erysipelas is fortunately a rare disease nowadays and it is impossible to give statistics as one can do in other diseases. Nevertheless, the results obtained during the past 11 years seem to justify anyone trying the above treatment, and I am convinced that they will not be disappointed.

I am, Sir, yours faithfully,

JOHN WISHART, M.D., D.Sc., F.L.S.

Newcastle-upon-Tyne, Nov. 14th, 1924.

THE VENUE OF THE REX *v.* HADWEN TRIAL.

To the Editor of THE LANCET.

SIR,—In suggesting that "partisan" feeling decided the finding of the jury in the above case, your legal correspondent puts himself in a two-fold dilemma.

1. If a Gloucester jury could not be trusted to give a verdict against Dr. Hadwen by reason of partisanship, how were nine men out of twelve found to give such a verdict at the coroner's jury?

2. If a Gloucester jury was bound to favour Dr. Hadwen, why did the coroner send an affidavit to the King's Bench Division urging the change of venue "in the interests of the accused, as well as in the interests of justice"?

May I challenge a reply to these questions?

I am, Sir, yours faithfully,

BEATRICE E. KIDD,
Secretary, British Union for Abolition of Vivisection.

32, Charing Cross, S.W. 1, Nov. 8th, 1924.

*** The correspondent whose remarks Miss Kidd criticises writes as follows: "The Secretary of the Anti-Vivisection Society has sharpened the four horns of her admirable dilemma in vain, for nobody but themselves can say what was in the mind of (1) the jurymen, or (2) the coroner. It is only fair, by the way, to the latter to recall that the Lord Chief Justice in dismissing the application to change the venue observed that the prosecution had 'looked at the matter with the utmost impartiality.' Are we not agreed on the general principle that trials are best conducted in a calm atmosphere, just as cricket matches are best played without barracking? Whether the atmosphere of this trial was ideally calm is perhaps a matter of opinion on which I may have been mistaken, but the judge's rebuke to the spectators after the verdict confirms the impression I had received from the newspaper reports."—ED. L.

A DISCLAIMER.

To the Editor of THE LANCET.

SIR,—My attention was recently called to a pamphlet entitled "The Ætiology and Treatment of Pyorrhœa," published by the Ainslie-Walker laboratories, in which a quotation has been made from a note of mine in THE LANCET without my knowledge or consent. A letter to the firm produced the amazing statement that "the quotation in such cases is of itself a compliment, to which I learn with surprise you seem to take exception." Under the circumstances I shall be obliged if you will give me the opportunity of stating not only that I do not agree with the treatment of the cases to which I referred in the note by intestinal "disinfection" with dimol, but that I am opposed to this procedure.

I am, Sir, yours faithfully,

A. KNYVETT GORDON, M.B.

10, Bedford-square, W.C. 1, Nov. 18th, 1924.

Obituary.

JOHN FRANCIS WALKINGAME TATHAM, M.A., M.D. T.C. DUB., F.R.C.P. LOND. & IREL.

SINCE his retirement from the post of Superintendent of Statistics at the General Register Office in 1910, Dr. Tatham, whose death took place at his residence in Oxted, Surrey, on Nov. 8th, at the age of 80, had lived a retired life, first at Lynton in Devonshire and afterwards at Oxted, and his old friends and colleagues had but few opportunities of meeting him. A few years ago he took Holy Orders, thus following his son who died before him, and he did useful and unassuming work in the Church.

John Francis Walkingame Tatham received his medical education at the University of Dublin, taking also qualifications at Glasgow. He went quite early into the public health service, and his first appointment, which gave proof of mastery of the principles of vital statistics and their application to preventive medicine, was that of medical officer of health for Salford, now some 50 years ago. He had there to struggle with the numerous insanitary conditions and the bad housing of a densely populated area; but already his statistical leaning was evidenced in the elegant and valuable statistical tables published in his annual reports. To these tables he evidently devoted great study, and they contained in manageable form most valuable comparisons between the current experience of Salford and that of other urban communities.

With his appointment as medical officer of health of the twin city of Manchester, Dr. Tatham's responsibilities and opportunities increased. From the point of view of efficiency of public health administration his post could not be described as a happy one. There was an unnatural divorce between the medical and sanitary work of the city, while he had no control over or claim on the time of the inspectors of nuisances employed by the corporation. To some extent this difficulty was met by utilising the district health nurses of the Manchester and Salford Sanitary Association; but these were relatively unskilled persons, and there can be no doubt that for some years epidemiological inquiries were carried out in Manchester in circumstances which hampered efficiency. The recognition of the work of these women had important indirect effects, for they can be regarded as the forerunners of the health visitors who are now in the van of child hygiene in this country.

Dr. Tatham's reports on the health of Manchester were characterised by the same statistical care as his earlier reports for Salford. In the year 1892 he published the first "Manchester Life-table," in which we see the earliest outcome of his friendship with Mr. Noel A. Humphreys, of the General Register Office. Mr. Humphreys made valuable suggestions as to the life-table, and Mr. A. C. Waters of the same office undertook the mathematical section; but the text of the report is Dr. Tatham's own, and displays a mastery of the problems concerned. Perhaps the most interesting part of the report is his answer to the question set at an earlier date by Mr. Noel Humphreys, "Are we young longer, or mature longer, or old longer?" Without going into detail, the conclusion reached is that men aged 25 in Manchester lose 1/6 of their normal period of maturity (ages 25–65), and 1/10 of their normal period of decline. One of the chief uses of a life-table is to enable a summarised statement to be given of the relative vitality in different communities; thus Dr. Tatham's life-table made it possible to state that in 1881–90 the future life-time of males in Manchester township was 28·8 years, as compared with 34·7 years in the whole city, and with 40·7 years in London and 43·6 years in Brighton. Subsequently Dr. Tatham published a second Manchester life-table, dealing with the experience of 1891–1900, and this was almost simultaneous with his transfer to the post of Superintendent of Statistics at the General Register Office, on the resignation of Dr. W. Ogle.

Dr. Tatham thus succeeded to the office which William Farr had made an essential part not only of the science of statistics, but also of the history of public health progress; and his friendship with Mr. Noel Humphreys, who had for many years been closely associated with Farr, ensured continuity of policy and work. But prior to this Dr. Tatham had initiated work in connexion with the registration of disease with which his name will perhaps be longest remembered. Following on earlier attempts by the Metropolitan Association of Health Officers in 1857, Dr. Arthur Ransome and the Sanitary Association of Manchester and Salford in 1860 organised a system of registration of sickness for these towns which appears to have been fairly complete, and which was not finally abandoned until the appearance 25 years afterwards of the compulsory notification of infectious diseases. Later it became realised that although preventive medicine is not confined to action against communicable diseases, prompt information respecting these is the urgent desideratum; and so town after town, from 1877 onwards, obtained local powers from Parliament making compulsory the notification of each case of the chief infectious diseases to the local medical officer of health. Then, and not until then, could it be said that the health officer was, in respect of many diseases, doing more than following slow-footed in the wake of disease. But disease does not confine itself to municipal or other local boundaries. The development of the complete possibilities of these returns of infectious diseases necessitated collateral information as to the amount and nature of the infectious diseases prevalent in neighbouring districts and in the rest of the country, or even in other countries. Dr. Tatham early recognised this defect and at the beginning of 1888, while still medical officer of health of Salford, he made a private arrangement with the medical officers of health of 32 other notification towns, by which he should receive from them weekly returns of the cases notified in each town. These were tabulated by him, and then circulated confidentially among the contributing medical officers early in the succeeding week. This was one of the many occasions in which private enterprise has experimented in pioneer work until official inertia can be overcome and the work can then be done on a national scale. The practicability and the utility of this voluntary inter-notification having been fully established, many of the local authorities concerned petitioned the Local Government Board to take the matter in hand as a "going concern"; and in 1889 the Board undertook this task. It may be added that this official work was made complete for the whole country by an Order of the Local Government Board in 1910, which made it the duty of every medical officer of health to forward the necessary returns weekly, which are printed for all areas and circulated later in the week. There have been more recent developments of the same policy which cannot be stated here, but to Dr. Tatham belongs the credit of initiating a most important development of intelligence work.

The best of Dr. Tatham's work in the General Register Office is embodied in the two letters to the Registrar-General summarising the vital experience of the country during the two decades 1881–90 and 1891–1900. They are indispensable to the English student of vital statistics; and a modestly expressed hope in the first of these that "these volumes may be regarded as a not unworthy contribution to the series of supplementary reports of which the first and second were written by Dr. Farr himself and the third was from the pen of my eminent predecessor, Dr. William Ogle," was realised in the event. Part I. of the first of these reports dealt with mortality in general and gave the life-table experience, while Part II. dealt chiefly with occupational mortality. In the corresponding supplement for 1891–1900 Dr. Tatham had the advantage of dealing with corrected or standardised death-rates in which there

had been eliminated the disturbing influence of accidental variations in the proportion of the two sexes and of persons at different ages. In his life-tables he was able to show the steady improvement in vitality during the course of civil registration in this country, and to display the age-incidence of this improvement.

Tatham was cautious in judgment, and stated his conclusions with clearness and brevity. In personal relationships he was courteous and helpful, and many medical officers of health have cause to remember his guidance and help with gratitude. The record of his work remains, and deserves to stand as a proof of the value of vital statistics in their intimate affinity with the progress of preventive and curative medicine.

In addition to the official literary work mentioned, Tatham was the author of the article on medical statistics in Allbutt and Rolleston's "System," while he was also a frequent contributor to these columns on the same subject. He was the chairman of the Statistical Committee of the Imperial Cancer Research Fund, a member of the Privy Council Committee on Physical Deterioration, a past President of the Epidemiological Society, and had held examinerships in the Universities of Cambridge and Wales.

JOHN BENJAMIN HELLIER, M.D. LOND.,

CONSULTING OBSTETRIC PHYSICIAN, LEEDS GENERAL INFIRMARY.

Dr. J. B. Hellier, Emeritus Professor of Obstetrics in the University of Leeds, died at the age of 71 at his home in Leeds on Nov. 8th after a short illness. Dr. Hellier was a student of Leeds, and spent his whole professional life in that city. He qualified M.R.C.S. Eng. in 1875, and soon after his graduation the following year at London University, where he took first-class honours in medicine and was awarded the gold medal in obstetrics, he became associated with the Leeds school as one of its teachers, acting for some time as demonstrator of anatomy. In 1878 he obtained the M.D. Lond. He was then appointed lecturer on materia medica, and though by this time he had made up his mind to devote himself to obstetrics and gynæcology, he was active in the duties of the post and founded the museum in connexion with that subject. He was for a good many years in general practice, and it was not until he became associated with the Women and Children's Hospital that it became clear to all that he was destined to fill an important place as a consultant in this department of medicine and surgery. From being lecturer in gynæcology he was promoted to the chair of obstetrics, which he held till the year 1918. In 1899, on the resignation of Dr. James Braithwaite, he was appointed to the department of obstetrics and gynæcology at the General Infirmary. For many years, therefore, Dr. Hellier had great opportunities of serving his old school, and the school has never had a more loyal and trustworthy officer. He was an impressive and interesting lecturer, and devoted much care to the preparation of his lectures, feeling as he did that the value of lectures was frequently underestimated from a lack of proper attention to this. In harmony with the rules of the two institutions he resigned the chair of obstetrics in 1919 and the honorary post of gynæcologist at the infirmary in 1918. The University at once showed its appreciation of his services by conferring on him the title of Emeritus Professor. Automatically he became consulting gynæcologist at the infirmary, with the right to use six beds. Thus, as is and has been for many years at Leeds the happy custom, he was able to carry on his extensive consulting practice without losing touch with the infirmary. Some few years ago his health began to fail, and he made a voluntary and gradual retirement. He was an outstanding figure in the medical life of Leeds, and his long association with the school, both as teacher and valued adviser on questions of policy, was an important factor in its successful development.

Prof. E. O. Croft sends the following appreciation: "As a colleague of the late Dr. J. B. Hellier of some 35 years' standing, it is fitting that I should express, however inadequately, some note of appreciation of the character of one whom we, at the University of Leeds, shall all miss very sincerely. When Chas. J. Wright was professor of obstetrics, I was demonstrator of midwifery, and Hellier shortly after, in 1889, became lecturer in gynæcology and gynæcologist to the Hospital for Women, where he and I worked together for some years until he joined the infirmary staff. At the medical school, the University, and hospitals we were continuously associated and did our last day's work together as recently as last month as co-examiners for the Central Midwives Board. On that occasion it was obviously only his indomitable courage that carried him through, and we realised he could do no more. He and I on various occasions were associated in carrying out necessary changes and developments in hospital and teaching affairs, and I think no one can realise more than I the high-minded and unselfish attitude he took in all such matters. Whatever differences of opinion might have existed Hellier was always the courteous gentleman, who never allowed any personalities to arise, and whether his views and suggestions availed or otherwise he remained the same kindly friend—a true sportsman—ready to try again. Hellier had a somewhat abrupt manner in conversation, but it was never tinged with any trace of unkindliness. He was a man of considerable culture and devoted to literature. One of his greatest and most valuable assets was a very keen and deep sense of humour: we can all remember many fascinating and interesting addresses and speeches with which he entertained us at University and medical gatherings. Hellier as a hospital colleague, teacher, and friend, and even more as a man of high character, exercised a great influence for good among all who knew him."

Dr. Hellier was a Fellow of the Glasgow Obstetrical Society, and was twice elected as President of the North of England Obstetric and Gynæcological Society. He made some sound contributions to medical literature in his own subject. In 1908 the second edition of his useful introductory manual on "Infancy and Infant Rearing" was published. This book was designed for a wide audience of pupil midwives, health lecturers, students, and practitioners, and well fulfilled its object. He contributed the article on Fistulæ in the Female Genital Tracts to Eden and Lockyer's "System of Gynæcology," and to Latham and English's "System of Treatment," the chapter on Diseases of the Vulva. In addition, his papers were frequently published in THE LANCET and various medical journals.

He has left a widow, daughter of Mr. H. B. Harrison of Manchester, two sons and two daughters, one of whom is in the medical profession. To them we extend our sympathies.

GEORGE ERNEST HASLIP, M.D. BRUX., M.R.C.S. ENG., D.P.H.

Dr. Haslip's death on Nov. 12th was for him a happy release from long and painful illness, but a severe loss to a wide circle of medical interests. Born in 1864, he studied at the London Hospital, taking his conjoint qualification in 1887, and supplementing it with the Brussels M.D. two years later. After filling a series of house appointments at his hospital, he began his practice in London, where he was brought closely in contact with business men, and became himself a competent man of affairs. He was elected a member of the Consultative Committee of the Ministry of Health, and took an active part in all medico-political matters in the metropolitan counties. His connexion with the British Medical Association included all the active years of his life; he devoted time, energy, and native wit to its welfare, ultimately becoming treasurer. Of this phase of his life Mr. N. Bishop Harman writes:—

"Of George Ernest Haslip it may be said that there were few men who made so many friends and so few enemies. It is even doubtful if he made any enemies

at all, but of friends that they were many is certain. Yet there are few men who have played a wider part in the medical affairs of his time. For eight years he filled one of the highest offices in the British Medical Association, the treasurership, and his tenure of office covered most of the difficult period of the war and the years of reconstruction. In the discharge of the duties of his office he showed an easy vigilance which was invaluable in the administration of the affairs of the Association, especially when there came one of those inevitable changes within the permanent staff of the head office, which might under less skilful guidance have made the wheels run heavily, but his care forestalled such risks. In finance he showed both knowledge and judgment. His work as treasurer did not diminish his attention to local medical matters, and it is common knowledge that his work in the Metropolitan Counties Branch and in his own division was unflagging.

"Haslip held strong views on professional affairs. Sometimes others of us considered them somewhat different from our 'doxy. He never hesitated to express his views, sometimes with a vigour that might have been wounding. Yet he never wounded. He had a way with him—so kindly, so single-minded, and so impersonal, that the keenest dissension in debate left no soreness, so that it came to pass on many such occasions apparently sharp antagonists would be seen strolling home with him in some happy discussion or converse that smoothed out any ripple of stress. As a medical practitioner he was unremitting in the care of his patients. To meet him in consultation was to discover that of all his many activities the care of his patients came first. To this end he spared no pains to keep himself abreast of the best practice he could find.

"The fibre of a man's character is revealed in his reaction to conditions of grave strain. Haslip's long and exhausting illness, with the constant suffering it entailed, was borne with a fortitude that was exemplary and not to be forgotten. Those who saw him then, when the signs of physical weakness were manifest, were the better for the lesson of his uncomplaining endurance. As one who had the honour to be his colleague in many a venture in Association affairs, I can give thanks for his work and for his example."

Dr. Haslip took an early interest in the Medical Insurance Agency, and was for the last year or two of his life chairman of the committee of management. The first part of the funeral service was held at St. Martin's-in-the-Fields on Nov. 14th; the second part at Walton-on-the-Hill, where he had long had a country house.

CHARLES FREDERICK ARROWSMITH MOSS, M.D., C.M. EDIN.

Dr. C. F. A. Moss, who died recently in Madagascar at the age of 59, devoted his life to medical mission work in that island, under the London Missionary Society and the Friends' Foreign Mission Association. He was the son of the Rev. C. F. Moss, also a missionary of the former society. Dr. Moss was born at Gosport in 1865. After studying medicine in Edinburgh University, where he graduated as M.B., C.M. in 1888, he went to Madagascar in the following year, and obtained his first appointment with the Friends' Foreign Mission Association, at the United Hospital at Tananarivo. He was in the hospital when it was bombarded and taken by the French in 1895. He married, in 1897, Rose Mary Pearse, daughter of the Rev. Joseph Pearse, the pioneer missionary of the L.M.S. to Madagascar, whose life he wrote 11 years ago. In 1898 he gained the M.D. Edin. with commendation. In 1913 Dr. Moss was placed on the retired list of the Friends' Foreign Mission Association, but he continued as a medical missionary at Tananarivo until 1920, when he was appointed by the London Missionary Society to a medical post in Imerimandroso in the Antsihanka Province, where he died. He visited England in the early part of last year, and was expecting to return home for good in two years' time. His widow is at present in this country.

JOHN LAWRENCE RENTOUL, M.B., CH.B. EDIN.

MUCH regret is felt in Belfast and the North of Ireland at the recent death, in early middle age, of Dr. J. L. Rentoul. A son of the late Rev. James Rentoul, of Dromore, Co. Down, Dr. Rentoul graduated as M.B. Edin. in 1900 and began practice in Lisburn, where he established a large clientèle. He volunteered for war service and obtained a commission in the R.A.M.C. He had given much attention to bacteriology, and was appointed bacteriologist to the hospital ship *Britannic*, which was torpedoed in the Ægean Sea in 1916. Dr. Rentoul was rescued, and subsequently had charge of a field laboratory in France. After demobilisation he settled in Belfast and practised as a clinical bacteriologist. He was an active member of the Ulster Medical Society and contributed frequently to its proceedings. He was specially interested in tuberculosis, and was engaged in experiments with a new serum at the time of his last illness. He was very popular with his friends and colleagues, and to his widow we extend our sympathies.

Medical News.

UNIVERSITY OF GLASGOW.—At the graduation ceremonial held on Nov. 15th the following degrees were conferred:—

M.D.—Katherine O. Robertson (with commendation), Arthur Anderson, and Alice Cox (in absentia).
M.B., Ch.B.—Isdale Robertson Taylor.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At an ordinary meeting of the Council of the College on Nov. 13th, Sir John Bland-Sutton, the President, in the chair, the Secretary reported the death on Oct. 11th, at the age of 77, of Mr. John Hammond Morgan, M.V.O., F.R.C.S., past member of the Council, and a vote of condolence with his family was unanimously passed.—Mr. Walter G. Spencer was reappointed a member of the Committee of Management of the Conjoint Examining Board.—It was agreed that a reception be held at the College from 4 to 6 P.M. on Wednesday, June 3rd next, for members attending the Interstate Post-graduate Assembly of American Surgeons.—The President reported that Mr. H. S. Pendlebury's term of office on the Court of Examiners would expire on Dec. 10th next, and that the vacancy thus occasioned would be filled up at the ordinary Council on Dec. 11th. Mr. Pendlebury is eligible for re-election.

ROYAL NORTHERN GROUP OF HOSPITALS.—Prince Arthur of Connaught presided over a festival dinner on Nov. 13th at the Hotel Cecil in aid of the Royal Northern Group of Hospitals. In proposing the toast of success to the Northern Hospital, Prince Arthur referred to the greater financial difficulties which confront hospitals in the outer circle of London compared with those of the inner circle. The Royal Northern Hospital with its 387 beds served a population of over one million, and during last year 4030 in-patients were treated and the out-patient attendance numbered nearly 170,000. He appealed to all present to help to clear off the embarrassing debt of £65,000 and put the hospital in a satisfactory financial condition. The Rev. Basil Bourchier supported this appeal in an eloquent speech, in which he spoke of the charitable service this hospital is able to render to the sick and injured of the populous district in which it is situated. Lord Northampton, chairman of the hospital, deplored the fact that the board had been compelled to close 60 beds, with the sad consequence that 1000 patients annually had to be refused admission. The hospital, he declared, is well supported by the residents of Northern London, but wealthy people in the West End, not knowing of the needs of their poorer neighbours, do not give it the support it deserves. He read a letter from Sir Howell Williams offering £20,000 to the hospital in memory of his son Captain Ifor Williams. This generous gift was made on condition that a similar amount should be raised by Jan. 1st, 1925, which should go to the reduction of the debt. In the memorial ward, to the endowment of which Sir Howell Williams has directed his bequest, he wishes that the greater part of the accommodation should be for the people of Islington, and that about six beds should be available for patients nominated by the Welsh community of London. Lord Northampton announced also the receipt of an offer of £3200 for the foundation of a maternity department, provided £5000 were received before the end of the year for the endow-

ment of the department. Sir Arthur Stanley, Mr. H. J. Tennant, Sir Philip Sassoon, and Mr. Malcolm Donaldson also spoke. The donations received at the dinner amounted to over £6650.

A GIFT TO THE HARVEIAN SOCIETY OF LONDON.—At a meeting of this society held on Nov. 13th at the PaddingtonTown Hall, the President announced the gift by Mr. G. Buckston Browne of £1000 in memory of his only son, Lieut.-Colonel Buckston Browne, D.S.O., who was lost in the war, for the purpose of establishing a Buckston Browne prize. The interest will be used, biennially, after certain deductions for expenses; the regulations for its award will be submitted to the general meeting in January next. A report of the discussion which took place at this meeting appears on another page.

MEDICAL CANDIDATES FOR PARLIAMENT. — The results of the poll for the constituency of the combined Scottish Universities, which returns three Members, were declared on Nov. 13th. The medical candidate, Sir George A. Berry, was again returned, as was also Sir Henry Craik, who, though not a member of the medical profession, has its interests at heart. The figures were: (1) Cons., 7189 (Sir Henry Craik); (2) L., 5010; (3) Cons., 3781 (Sir George Berry); (4) Lab., 1638. The total number of medical men now entitled to sit in the House of Commons is 12. A list of the other 11 was given in THE LANCET of Nov. 8th, p. 987.

AUSTRALIAN AND NEW ZEALAND MEDICAL ASSOCIATION IN ENGLAND.—The half-yearly dinner of the Association will be held at the Trocadero Restaurant, Piccadilly, on Friday, Dec. 12th, at 7.30 for 8 P.M. Further particulars may be obtained from Dr. E. T. C. Milligan and Dr. H. Bedford Russell, the hon. secretaries, at 86, Harley-street, W. 1.

MEDICINE AND MISSIONS.—At a meeting on behalf of medical missions in connexion with the Society for the Propagation of the Gospel in Foreign Parts, held in the Central Hall, Westminster, on Nov. 12th, Sir Leonard Rogers, who was in the chair, spoke of the good work being done by medical missionaries of various denominations throughout the world, and especially of what he had seen himself. He paid a tribute to valued personal friends among them who had died in harness, such as Dr. Pennell on the North-West Frontier of India; Dr. Hearn, of the Dublin University Mission in Chota Nagpur. He referred to the large number of patients treated by the missions in connexion with the society in various parts of India, in North China, and in South Africa, and of the importance of the endeavours made by the society to pay its workers a living wage, and to have at least two doctors at every hospital. He pointed out the need for many more workers, especially men. In conclusion, he referred to the new opening for work in all mission hospitals in the tropics for the treatment of leprosy, which could now be carried out more effectively than ever before, especially in its earlier stages. Nearly every case could be relieved of bad symptoms and of infectivity. The result was that large numbers were coming forward for early treatment instead of hiding the disease until it was too late. It had been found that a considerable number of these earlier cases were not infectious, and it was quite unnecessary to isolate them; hence they could be treated as out-patients in all mission hospitals. Sir Leonard Rogers reiterated his belief that leprosy could be reduced to a negligible quantity.

ADVISORY COMMITTEE ON THE WELFARE OF THE BLIND.—In view of the development in the work among the blind owing to the operation of the Blind Persons Act, 1920, the Minister of Health has reappointed the Advisory Committee on the Welfare of the Blind for a further period of office. The committee has been constituted so as to afford representation to the local authorities concerned with the working of the Act and to voluntary agencies for the blind, as well as to organised blind workers. The following have been appointed members of the committee: Mr. G. H. Roberts (chairman), Mr. P. M. Evans, LL.D. (vice-chairman), Miss W. Bramhall, Alderman W. J. Burgess, J.P., Mr. J. J. Burton, Dr. J. J. Butterworth, D.P.H., Sir Coles Child, Bart., Mr. Herbert Davey, Canon G. H. P. Glossop, Mr. James Graham, Mr. Thomas Holt, Mr. Arthur L. Lowe, Dr. Robert A. Lyster, D.P.H., Mr. G. F. Mowatt, J.P., Mrs. Wilton Phipps, J.P., Dr. H. A. Powell, Rev. P. S. G. Propert, Mr. Ben Purse, and Mr. W. H. Tate, J.P. A representative of the National League of the Blind and a further representative of the local authorities will be appointed later. The committee will advise the Minister on matters relating to the care and supervision of the blind, including any question that may be specially referred to them by the Minister. Mr. F. M. Chapman, of the Ministry of Health, will act as secretary.

GLASGOW UNIVERSITY CLUB OF LONDON.—A dinner will be held at the Trocadero Restaurant, Piccadilly, on Thursday, Dec. 11th, at 7.30 P.M., Mr. D. M. Cowan, M.P., in the chair. Any Glasgow University men who, though not members of the Club, desire to attend are requested to communicate with the hon. secretaries, 1, Harley-place, N.W. 1.

ST. VINCENT'S HOSPITAL, DUBLIN.—On Nov. 11th, in the presence of a large company, the Archbishop of Dublin opened the new out-patient department of this hospital. It is some 90 years, our Dublin Correspondent writes, since Mary Aikenhead, the foundress and head of the Sisters of Charity, founded St.Vincent's Hospital, and it has ever since remained under the care of the Sisters of Charity. These ladies have spared no pains to keep the hospital in touch with modern developments of medicine and surgery, and while always fortunate in their selection of a staff, have made sure that their staff should be given adequate equipment for their work. The new department opened last week contains sections for medicine, surgery, ophthalmology, otology and laryngology, gynæcology, dentistry, radiology, pharmacy, and pathology. The cost of the building was some £37,000, the sum being available from a bequest of the late Mr. Charles Lawler. On Nov. 15th the annual dinner of the staff and past students of St. Vincent's Hospital was held in the Shelbourne Hotel, with Mr. J. S. McArdle, senior surgeon, presiding. A very large number of past students and guests were present, among the latter being His Excellency the Governor-General, the President of the Royal College of Physicians, the President of the Royal College of Surgeons, the Chief Justice, and the President of University College, The absence, through illness, of Dr. M. E. Cox, senior physician to the hospital, was regretted by all.

EDINBURGH UNIVERSITY CLUB OF LONDON.—The 203rd dinner of the club was held on Nov. 12th at the Connaught Rooms, with Sir Harold Stiles in the chair. Some 200 members and their guests were present. The Chairman, who began in reminiscent vein, spoke of the medical work of his father and his grandfather, and recalled the parental warning he had received when commencing his student career in Edinburgh on the evils of billiard-playing. The Edinburgh Medical School, he said, was supreme at the end of the eighteenth and in the early part of the nineteenth centuries; it was two Edinburgh medical graduates who founded the first school of medicine in America, at Philadelphia, and the first in Canada, McGill school, was started by four Edinburgh men. It was Charles Bell, he said, who infused the scientific spirit of surgery into London. Great progress had been made in Edinburgh since the middle of last century in two lines, first in abdominal surgery, and second in orthopædic surgery. But more money was wanted, and the speaker hoped that by the recent formation of an alumni society funds for further development would be forthcoming. The value of alumni associations, such as exist in America, had not been hitherto realised. The future of every nation depended on the development of science. Dr. H. J. F. Simson proposed the toast of the chairman in a most entertaining speech. A pleasant programme of songs was rendered in the course of the evening by Mr. W. A. Peterkin.

UNIVERSITY OF EDINBURGH LODGE: INSTALLATION AND BANQUET.—The M.W. the Pro. Grand Master, the Right Hon. Lord Ampthill, was present on Nov. 14th at the Installation Meeting of the University of Edinburgh Lodge, No. 2974, which celebrated the twenty-first anniversary of the Lodge. Some 150 Brethren, including a considerable number of Grand Officers, and many distinguished in the craft and medical profession, attended at Freemason's Hall in the afternoon, when W. Bro. M. Burrow Ray, D.S.O., M.D., opened the Lodge. W. Bro. Robert Cathcart Bruce, P.G.D., and W. Bro. Frederick J. McCann, P.P.G.W., Kent, were elected honorary members of the Lodge. The M.W. Pro. Grand Master Lord Ampthill, assisted by the retiring Master, installed W. Bro. D. C. L. Fitzwilliams, C.M.G., M.D., M.Ch., P.Dep.G.D.C., as Master for the ensuing year, and at a later stage the Pro. Grand Master delivered the addresses. The W.M. invested the following officers: I.P.M., W. Bro. M. Burrow Ray, D.S.O.; Bro. R. H. Martin, S.W.; Bro. Alastiar MacGregor, J.W.; W. Bro. W. E. Porter, Treasurer; W. Bro. G. C. Cathcart, Secretary; W. Bro. Hugh Phillips, D.C.; Bro. Moriarty, S.D.; Bro. MacCormac, C.B.E., J.D.; W. Bro. McCrae Aitken, A.D.C.; W. Bro. F. J. McCann, Almoner; Bro. H. C. Nixon, Organist; W. Bro. William Wilson, Asst. Secretary; W. Bro. H. Critchley, I.G. Stewards: W. Bro. G. A. Gordon, Bro. P. Leighton, Bro. Kerr Simpson; and Bro. P. McLean, Tyler. A banquet was held in the evening at the Imperial Restaurant, Regent-street, W., when Lord Ampthill, responding for the "Grand Officers," alluded to the strength of Freemasonry amongst the medical profession, a profession devoted (he said) to the welfare of mankind and thus closely allied to the principles of the craft.

UNIVERSITY OF LONDON: *University College.*—Of the 15 entrance scholarships and exhibitions available for award to students entering this College in October, 1925, three are tenable in the Faculty of Medical Sciences only and three are tenable in any of the five College faculties. Most of the scholarships and exhibitions are of the value of £40 a year for three years, but the value of any scholarship or exhibition may be increased by the grant of a supplementary bursary if the circumstances of the scholar or exhibitioner make such a grant necessary. The Bucknill scholarship (medical) is of the value of 160 guineas; the two medical exhibitions are of the value of 55 guineas each.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SOCIETY. The annual dinner of this society will be held on Thursday, Dec. 11th, at Gatti's Restaurant, Strand, W.C. Tickets, 10*s.*, may be obtained from Mr. I. H. K. Stevens, hon. secretary.

Dr. W. B. Coulter (Senior Medical Officer) has been appointed an Official Member of the Executive Council of the Presidency of Montserrat.

LECTURES ON PSYCHOLOGICAL MEDICINE.—The eighth course of lectures at the Maudsley Hospital, Denmark Hill, London, S.E., for the Diploma of Psychological Medicine will commence early in January. The lecturers will be Sir Frederick Mott, Dr. F. Golla, and Dr. Henry Devine.

IRISH MEDICAL SCHOOLS AND GRADUATES ASSOCIATION.—The autumn gathering and dinner of this association will take place at Pagani's Restaurant, Great Portland-street, London, W., on Nov. 25th at 7.30 P.M. The chair will be occupied by the President, Dr. William J. Corbett. Tickets (10*s.*) may be obtained from Dr. Holmes Meyrick, 48, Ennismore-gardens, London, S.W. 7.

THE Parliamentary Secretary to the Ministry of Health, Sir H. Kingsley Wood, M.P., has appointed Mr. E. S. Hill to be his private secretary; the Permanent Secretary to the Ministry of Health, Sir Arthur Robinson, has appointed Mr. R. Stanton to be his private secretary; and the Second Secretary to the Ministry of Health, Sir A. V. Symonds, has appointed Mr. T. H. Sheepshanks to be his private secretary.

CREMATION IN MANCHESTER.—At the thirty-fourth annual meeting of the Manchester Crematorium, Limited, it was stated that the number of cremations in the last five years had been as follows: 219 in 1920, 211 in 1921, 208 in 1922, 222 in 1923, 234 in 1924. Since the opening of the crematorium in 1892 the total number of cremations has been 4080. The total number in Great Britain for the year ended with August last was 2349, against 1923 in the preceding year.

RONTGEN SOCIETY.—A meeting will be held on Dec. 2nd, at 8.15 P.M., in the British Institute of Radiology, 32, Welbeck-street, London W., when Prof. J. A. Crowther will read a paper on Some Experiments with Induction Coils, and, jointly with Mr. R. J. Stephenson, a paper on the Effect of Capacity on the Induction Coil. The Council has decided to present the "Rontgen Award for the Session 1923–24" to Mr. L. H. Clark, M.Sc., Physics Department, Middlesex Hospital, who contributed the following papers to the society during the session: (1) A Clinical X Ray Balance Radiometer, (2) On the Measurement of X Ray Intensity.

THE LATE DR. R. N. WEST.—General regret has been caused in the district of Manchester in which he practised, Chorlton-cum-Hardy, by the death from pneumonia on Nov 1st of Robert Newberry West, a son of the late Rev. J. R. O. West, Canon of Manchester. Dr. West studied at Owens College and graduated M.B. and Ch.B. at the University of Manchester in 1901. He served for four years on active service in France as a captain in the R.A.M.C. He was district medical officer and public vaccinator in his town to the Chorlton Union, and was prominently identified with the St. John's Ambulance movement. He leaves a widow and one child.

HOSPITAL FOR EPILEPSY AND PARALYSIS.—The committee of management of the Hospital for Epilepsy and Paralysis, Maida Vale, London, W., has placed the facilities of the pathological, X ray, and Swedish remedial departments at the disposal of medical practitioners for the benefit of patients who are not in a position to pay the usual charges. The pathologist is Dr. Douglas McAlpine, M.R.C.P., an honorary assistant physician of the Hospital who is acting as honorary pathologist until the use of the laboratory justifies the appointment of a full time paid pathologist. The biochemist is Mr. Hugh Nichol, M.Sc., who until the work demands it will also do the bacteriology. A schedule of charges has been issued in which, for instance, the Wassermann test is 15*s.*, a section of tumour with report or a blood-sugar estimation 10*s.* 6*d.*, X ray of bismuth meal £5 5*s.*, supervised Swedish exercise 5*s.* for half an hour. In accordance with the principles of the hospital these payments will be voluntary and may be reduced on the recommendation of a practitioner to meet the needs of individual patients. All communications should be addressed to the secretary of the hospital.

DONATIONS AND BEQUESTS.—Mr. William Byrom, cotton spinner, late of Heaton Mersey, who left £32,569 after the payment of small legacies, gave the whole of his estate to charitable institutions, including £720 to the National Children's Home and Orphanage founded by the late Dr. Stephenson; £480 each to Dr. Barnardo's Children's Home, United Kingdom Alliance, Victoria University, Manchester; Manchester and Salford Sunday Fund, and Manchester Royal Infirmary; and £240 to Mauldeth Hospital for Incurables.—Mr. John Drake, of Halifax, who left £3148 after personal bequests, left the residue of the property to the Society for the Home Teaching and Assistance of the Halifax Blind.—Mr. William Stones, Manchester, mineral water manufacturer, left estate of the gross value of £172,375. After the fulfilment of legacies and failing certain trusts, he left the ultimate residue of his property as to—three-tenths to the Manchester Royal Infirmary and Dispensary; one-fifth to St. Mary's Hospital, Manchester; and one-fifth to the Manchester Children's Hospital; one-tenth to the Manchester Eye Hospital; one-tenth to the Northern Counties Hospital for Incurables, Mauldeth; one-tenth between the Christie Hospital and the Manchester and Salford Hospital for Skin Diseases.—The Royal Manchester Children's Hospital has received £1000 from H. Pownall to endow "The Anne Pownall Cot" and £740 from the Manchester Corporation.—On Oct. 18th the thanks of the Senate of the University of Cambridge were accorded to Mr. Ernest H. Gates, who has provided the necessary sum to enable the University to accept the offer made by the Trustees of the Rockefeller Fourdation for the endowment of the School of Pathology; and to the Rockefeller Trustees for the endowment of the School of Pathology.—Sir George Wills has given £60,000 for the purpose of erecting a new nurses' home and a new out-patient and casualty department at the Bristol General Hospital.—Two anonymous donors have given £15,000 to the Northampton General Hospital for additional apparatus and equipment for the electrical department, and the chairman of the institution, Mr. R. B. Loder, has made a donation of £300.—Mr. George Tilling, solicitor, Streatham, left £200 each to the Royal Microscopical Society, the Quckett Microscopical Club, Guy's Hospital, Dr. Barnardo's Homes, the British Red Cross Society.—Mr. Alfred Hargreaves, of Woodlands, near Keighley, left £250 each to the Keighley and District Victoria Hospital and the Skipton and District Hospital, payable on the death of his wife.—Mr. Robert Hesilrige Buckby, solicitor, Syston, gave on the death of his wife £100 each—amongst other institutions—to the Leicester Institution for the Blind, the Leicester Royal Infirmary, the Middlesex Cancer Hospital, the Institution for the Deaf and Dumb, Derby, the London Female Guardian Society, and the Ragged School Union.—Sir Samuel Turner, an ex-mayor of Rochdale and asbestos manufacturer, besides other charitable bequests, left £4000 to the National Children's Home and Orphanage, with the request that it be used for the erection of an additional home for orphans; £3000 to the Rochdale Infirmary for the endowment fund; £1000 to the Rochdale Nursing Association for the endowment fund; £1000 to the Rochdale Crippled Children's Union for the endowment fund; and £500 to the Rochdale and District Society for Visiting and Instructing the Blind, for the endowment fund.—Mr. Richard Baron, of Lower Darwen, bequeathed £500 each to the Blackburn Infirmary and to Blackburn Ragged School.—Dame Florence Emily Fermor-Hesketh, Rochampton, left £40,000 for such charitable institutions and objects in California as her executors may think fit and £10,000 for similar purposes in England.—Towards the Lord Mayor's Hospital Fund in Leeds the Leeds National Health Insurance Committee has contributed £1000 and the town of Pudsey £2641, thereby establishing a record for itself.—Alderman William Henry Churton, solicitor, of Chester, left £200 to the Chester Royal Infirmary.—Mrs. Millicent Salting, Berkeley-square, W., left £2000 each to the Middlesex Hospital, St. Mary's Hospital, Paddington, and the Cancer Hospital, Fulham-road, S.W.; £1000 each to the Brompton Hospital for Consumption and King's College Hospital.—Miss Annie Webster, Headingley, Leeds, left £1000 to the Leeds General Infirmary to endow an "Annie Webster Bed."—Dame Edith Annie Armstrong, of Pangbourne, Berks, left £1050 to the Royal Northern Hospital, Holloway-road, N., "for a Jack Armstrong bed in proud and dear memory of my son who fell gloriously for King and Country, Jan. 25th, 1915."—The Chelsea Hospital for Women has received an Armistice Day donation of £200.

Medical Diary.

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Monday, Nov. 24th.

ODONTOLOGY: at 8 P.M.
Paper:
Mr. G. J. Goldie and Prof. Collingwood: A Note on Protagulin in Hæmorrhage after Extraction.

Tuesday, Nov. 25th.

MEDICINE.
No meeting of the Section of Medicine will be held in November.

Wednesday, Nov. 26th.

COMPARATIVE MEDICINE: at 5 P.M.
Paper:
Mr. Leslie Pugh: Puerperal Septicæmia in Cattle.
A discussion will follow, opened by Prof. Louise McIlroy.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.
Members of this Section are specially invited to attend the above meeting.

ANNUAL DINNER OF THE SOCIETY: Hotel Victoria, 7.30 for 8 P.M.

Thursday, Nov. 27th.

BALNEOLOGY AND CLIMATOLOGY: at 4.30 P.M.
Presidential Address:
Dr. W. Edgecombe: The Principles of Spa Treatment in Great Britain.
To be followed by a discussion.

EPIDEMIOLOGY AND STATE MEDICINE: at 5.30 P.M.
Paper:
Dr. T. Carnwath: A Brief Survey of Public Health Organisations in the United States of America.

UROLOGY: at 8.30 P.M.
Clinical and Pathological Evening:
Members wishing to show cases or specimens are requested to notify the Hon. Secretary (Mr. S. G. MacDonald, 51, Queen Anne-street, W.) without delay.

Friday, Nov. 28th.

STUDY OF DISEASE IN CHILDREN: at 4.45 P.M.
Clinical meeting at St. Thomas's Hospital, S.E.

BALNEOLOGY AND CLIMATOLOGY.
It is hoped to arrange for a visit to some orthopædic institution. Particulars to be announced later.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY, Nov. 24th.—8.30 P.M., Discussion on the Treatment of Senile Gangrene, to be introduced by Sir Anthony Bowlby, Bart., K.C.B., followed by Dr. Harold A. Des Voeux, Mr. Sampson Handley, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.
MONDAY, Nov. 24th, to SATURDAY, Nov. 29th.—WEST LECTURE HALL, Royal Society of Medicine, 1, Wimpole-street, W. Lecture arranged by the Fellowship of Medicine, and open to all members of the profession. At 5.30 P.M., Monday, the 24th inst., Mr. Victor Bonney: Cancer of the Uterus.—CHELSEA HOSPITAL FOR WOMEN, Arthur-street, S.W. Special Course in Gynæcology, consisting of lectures, demonstrations, and operations.—ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-road, S.E. Special Course in Medicine, Surgery, and Gynæcology. Lecture-Demonstrations in the wards and out-patient departments.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith.
MONDAY, Nov. 24th.—12 noon, Mr. Simmonds: Applied Anatomy. 2 P.M., Mr. Addison: Surgical Wards. 2 P.M., Dr. Scott Pinchin: Medical Out-patients.
TUESDAY.—11 A.M., Mr. Endean: Venereal Diseases. 12 noon, Dr. Burrell: Chest Cases. 2 P.M., Mr. Sinclair: Surgical Out-patients.
WEDNESDAY.—12.15 P.M., Dr. Burnford: Medical Pathology. 2 P.M., Dr. Pernet: Skin Dept. 4.30 P.M., Dr. Trevor Davies: Gynæcological Demonstration.
THURSDAY.—10 A.M., Dr. Grainger Stewart: Neurological Dept. 11 A.M., Mr. Simson: Gynæcological Wards. 2 P.M., Mr. MacDonald: Genito-Urinary Dept.
FRIDAY.—11 A.M., Dr. McDougal: Electrical Dept. 12 noon, Surgical Registrar: Surgical Pathology. 2 P.M., Mr. Vlasto: Throat, Nose, and Ear Dept.
SATURDAY.—9.30 A.M., Dr. Burnford: Bacterial Therapy. 10 A.M., Dr. Saunders: Medical Diseases of Children. 10 A.M., Mr. Banks-Davis: Operations on Throat, Nose, and Ear.
Daily, 10 A.M. to 6 P.M., Saturdays, 10 A.M. to 1 P.M., In-patients, Out-patients, Operations, Special Departments.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.
TUESDAY, Nov. 25th.—4.30 P.M., Mr. T. H. C. Benians: Blood-Sugar and Blood-Urea in Diagnosis and Treatment.
FRIDAY.—4.30 P.M., Mr. H. W. Carson: The Methodical Investigation of Stomach Cases.
Daily: Medical and Surgical Clinics, Clinics in the various Special Departments, Surgical Operations, &c.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.
THURSDAY, Nov. 27th.—4 P.M., Mr. Tyrrell Gray: Acute Peritonitis.

ROYAL DENTAL HOSPITAL OF LONDON POST-GRADUATE LECTURES.
WEDNESDAY, Nov. 26th.—5 P.M., Mr. T. B. Vaile: Some Points in Anæsthesia for Dental Cases.

ST. JOHN'S HOSPITAL, 49, Leicester-square, W.C.
TUESDAY, Nov. 25th.—5 P.M., Dr. A. M. H. Gray: Bacterial Affections.
THURSDAY.—5 P.M., Dr. Haldin Davis: Seborrhœa. Seborrhœic Dermatitis.

UNIVERSITY OF LIVERPOOL POST-GRADUATE LECTURES. (At 3.30 P.M.)
MONDAY, Nov. 24th.—(At the Children's Hospital.) Mr. Dun: Surgical Cases.
TUESDAY.—(At the Southern Hospital.) Mr. Leyland Robinson: The Disorders of the Menopause.
WEDNESDAY.—(At the Northern Hospital.) Dr. Pemberton: Arthritis Deformities.
THURSDAY.—(At the Stanley Hospital): Miss Ivens: The Diagnosis and Treatment of Uterine Fibroids.
FRIDAY.—(At the Royal Infirmary.) Mr. Kelly: Surgical Cases.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE LECTURES.
TUESDAY, Nov. 25th.—4.15 P.M., Mr. P. R. Wrigley: The Place of Splenectomy in Surgery.
FRIDAY.—4.15 P.M., Mr. A. H. Burgess: Some Points in the Surgery of the Biliary Tract.

UNIVERSITY OF SHEFFIELD POST-GRADUATE LECTURES. (At 3.30 P.M.)
TUESDAY, Nov. 25th.—(At the Royal Infirmary.) Dr. Yates: Pathology as a Basis of Treatment in Some Common Diseases.
FRIDAY.—(At the Royal Hospital.) Dr. P. Hay: Miners' Nystagmus.

BRISTOL UNIVERSITY POST-GRADUATE DEMONSTRATIONS.
WEDNESDAY, Nov. 26th.—3.15 P.M. (at the Town Club, Swindon). Dr. O. C. M. Davis: Defective Dietary as a Cause of Children's Disorders.

ROYAL INSTITUTE OF PUBLIC HEALTH, Russell-square, W.C.
(Course of Lectures on the Health of the Commonwealth.)
WEDNESDAY, Nov. 26th.—4 P.M., Prof. Winifred Cullis: The Practice of Health.

ROYAL ANTHROPOLOGICAL INSTITUTE.
TUESDAY, Nov. 25th.—8.30 P.M. (in the Lecture Room of the Royal Society, Burlington House, W.) Prof. Dr. R. Verneau: La Race de Neanderthal et la Race de Grimaldi: Leur Rôle dans l'Humanité. (Huxley Memorial Lecture.)

THE ST. ANDREWS INSTITUTE FOR CLINICAL RESEARCH.
TUESDAY, Nov. 25th.—4 P.M., Dr. Hynd: The Chemical Constitution of the Urine and Blood in Health and Disease.

CHADWICK PUBLIC LECTURES.
WEDNESDAY, Nov. 26th.—5.15 P.M. (at the Medical Society's Rooms, 11, Chandos-street, W.). Dr. W. W. Feldman: Antenatal Physiology and Hygiene.

THE PEOPLE'S LEAGUE OF HEALTH. Course of Lectures on the Mind and What We Ought to Know About It.
(At the Medical Society of London, 11, Chandos-street, W.)
MONDAY, Nov. 24th.—6 P.M., Sir Frederick Mott: Mind and Body.

Appointments.

COOKE, ROBERT HUNT, M.B., B.S. Lond., has been appointed Medical Registrar, Hospital for Epilepsy and Paralysis and Other Diseases of the Nervous System, Maida Vale.

PAYNE, ALFRED ERNEST, M.B. Lond., M.R.C.S., L.R.C.P. Lond., Honorary Radiologist, Leicester Royal Infirmary.

Surgeons under the Factory and Workshop Acts: NESS-WALKER, J., M.R.C.S., L.R.C.P. Lond., Castleton; BATES, K. L., L.R.C.P. Lond., M.R.C.S., St. Albans; RICHARDS, W. K. A., M.B., Ch.B. Bristol, Westbury; and ARTHUR, J., Wellingborough.

Vacancies.

For further information refer to the advertisement columns.

Aberystwyth Infirmary, &c.—H.S. £200.

Barrow-in-Furness, North Lonsdale Hospital.—Two H.S.'s. Each £175.

Birmingham City Tuberculosis Dept.—Asst. M.O. £450.

Brighton, New Sussex Hospital for Women and Children.—Hon. Radiologist.
Bristol City and County of Education Dept.—Asst. Sch. M.O. £600.
Bristol General Hospital.—Hon. Clin. Assts.
Bristol Royal Hospital for Sick Children and Women.—Hon. P. to Out-patients.
City of London Maternity Hospital, City-road, E.C.—Res. M.O. at rate of £100.
East London Hospital for Children and Dispensary for Women, Shadwell, E.—Anæsthetist. £50.
Elizabeth Garrett Anderson Hospital, Euston-road, N.W.—Asst. S.
Exminster, Devon Mental Hospital.—Jun. A.M.O. £300.
Gordon Hospital, Vauxhall Bridge-road, S.W.—Res. H.S. at rate of £75.
Hampstead General and North-West London Hospital, Haverstock-hill, N.W.—H.P., and H.S. Also Cas. Med. O. and Cas. Surg. O. All at rate of £100.
Hospital for Epilepsy and Paralysis, Maida Vale, W.—Hon. Ophth. S.
Hospital for Sick Children, Great Ormond-street, W.C.—H.S. and H.P. Each £50.
London Lock Hospital, 91, Dean-street, W.—Clin. Assts.
London Temperance Hospital, Hampstead-road, N.W.—R.M.O. at rate of £175.
Manchester, Eccles and Patricroft Hospital.—H.S. £200.
Manchester Hospital for Consumption, &c., Bowden, Cheshire.—R.M.O. £200.
Manchester Northern Hospital for Women and Children, Park-place, Cheetham Hill-road.—Sen. and Jun. H.S. £130 and £100 respectively.
Manchester Royal Infirmary.—Hon. Asst. Radiologist.
Metropolitan Ear, Nose, and Throat Hospital, Fitzroy-square, W.—Asst. S. and Clin. Assts.
Ministry of Health, Whitehall, S.W.—M.O. £600 and bonus.
Oxford, Radcliffe Infirmary and County Hospital.—H.S. and Obstet. H.P. Each at rate of £120.
Park Royal Hospital, Acton Lane, W.—Res. Asst. M.O. £350, bonus, &c.
Poplar Hospital for Accidents, East India Dock-road, E.—Hon. Dent. S.
Prince of Wales's General Hospital, N.—Clin. Assts.
Reading, Royal Berkshire Hospital.—Hon. Asst. S.
Rotherham Hospital.—Hon. Radiologist.
Royal Army Medical Corps.—Commissions.
Royal Eye Hospital, St. George's-circus, S.E.—Jun. H.S. £100.
Royal Free Hospital, Gray's Inn-road, W.C.—Sen. Res. M.O. £150. Cas. O. £100. Asst. Cas. O., Obstet. Asst. £50. Obstet. H.S. H.P. and H.S. Also Surg. and Gynæcological Reg. £250.
Royal London Ophthalmic Hospital, City-road, E.C.—Pathologist and Curator. £200.
Royal Waterloo Hospital for Children and Women, Waterloo-road, S.E.—H.S. at rate of £100.
Sheffield University.—Asst. Pathologist. £500.
Somerset County Council, Quantock Lodge Tuberculosis Sanatorium.—Res. Med. Supt. £739 12*s.*
Truro, Royal Cornwall Infirmary.—H.S. £170.
Virol Scholarship in Hæmatology. £200.
West End Hospital for Nervous Diseases, Gloucester Gate, Regent's Park, N.W.—Asst. P., Laryngologist. Also Otologist.
Western Ophthalmic Hospital, Marylebone-road, N.W.—Sen. Non.-Res. H.S. at rate of £150.
Windsor, King Edward VII. Hospital.—Jun. H.S. At rate of £100.

Births, Marriages, and Deaths.

BIRTHS.

PATTERSON.—On Nov. 8th, at Bedford, the wife of Surgeon-Commander T. C. Patterson, R.N., of a son.
TRAVERS.—On Nov. 13th, at Phillimore-gardens, W., the wife of Dr. Ernest Travers, of a son.

MARRIAGES.

RISIEN-RUSSELL—CLEMENT.—On Nov. 17th, in London, J. S. Risien-Russell, M.D., F.R.C.P., of Wimpole-street, W., to Ada Clement, daughter of the late Wilkinson Hartley, Esq., J.P., C.A., and Mrs. Wilkinson Hartley, J.P., of Carr Hall, Nelson, Lancashire.

DEATHS.

BURROWS.—On Nov. 13th, in a nursing home, Cambridge, Cresswell Burrows, M.A., B.Sc., M.D. Camb., M.R.C.S. Eng., L.R.C.P. Lond.
LEE.—On Nov. 17th, at West Drayton, Robert James Lee, M.B., M.D. Camb., aged 84.
LONG.—On Nov. 16th, at Micklegate, York, David Sanderson Long, M.D.
MATTHEWS.—On Nov. 13th, at Strathyre-avenue, Norbury, S.W., Dr. J. Sydney Matthews, M.R.C.S., L.R.C.P., L.M.S.S.A. Lond., of Cape Town and London.
PALEY.—On Nov. 12th, at Brunswick-place, Hove, Brighton, of heart failure following operation, Frederick John Paley, M.D., aged 65 years.
POWELL.—On Nov. 5th, accidentally drowned at sea, James Farquharson Powell, M.C., M.R.C.S., L.R.C.P., of Boscobel-road, St. Leonards-on-Sea.
TAYLOR.—On Nov. 14th, at Eaton-hill, Norwich, Sidney Johnson Taylor, M.D., aged 67.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Comments, and Abstracts.

PUBLIC HEALTH IN TANGANYIKA.

A REPORT on the Mandated Territory of Tanganyika for the year 1923 has been issued from the Colonial Office for the information of Parliament. The Territory consists of that portion of the former colony of German East Africa which, under the Treaty of Peace with Germany, it was agreed should be administered under a mandate by His Britannic Majesty. It extends from the Umba River on the north to the Rovuma River on the south, the coast-line being about 500 miles in length, and includes the adjacent islands. The total area is about 365,000 square miles. Along the coast lies a plain, varying in width from 10 to 40 miles, behind which the country rises gradually to a plateau constituting the greater part of the hinterland. This plateau falls sharply from a general level of 4000 feet to the level of the lakes (Tanganyika, 2590 feet; Nyasa, 1607 feet), which mark the great Rift Valley extending northwards to Lake Naivasha. The seat of Government is Dar-es-Salaam (population approximately 25,000), a modern town founded in 1862 by the then reigning Sultan of Zanzibar and subsequently occupied by the Germans in 1887. The highest parts of the Territory are in the north-east, where are the extinct volcanoes, Kilimanjaro, which rises to 19,720 feet and is snow-capped, and Mount Meru (14,960 feet). In the south-west are the Livingstone Mountains, where the highest peak is over 9000 feet. The population of the Territory, according to the latest census (1921), was as follows: Europeans 2447, of whom 1598 were British subjects; Asiatics 14,991, of whom 9411 were Indians, 7987 Goans, and 4782 Arabs; natives 4,107,000. The European population is composed of officials, planters, merchants, and employees of business firms and estates, while Indians and Goans find occupation as shopkeepers, clerks, and artisans.

Infectious Disease.

Epidemics.—In 1923 the Territory was remarkably free from epidemics, and the general health compared favourably with previous years; plague and small-pox showed a diminished incidence, while there was only one outbreak of cerebro-spinal fever of any importance; they occurred in a few villages on the shores of Lake Victoria, east of Mwanza, where 90 cases with 82 deaths were reported. Early in the year epidemic *influenza* broke out in the south-western area. The type of disease was not severe; the epidemic was always well in hand, and was completely stamped out by the end of the year. Influenza of a more severe type broke out in the neighbourhood of Singida during November, but energetic measures were instituted, and the disease did not spread to the surrounding districts. There were 33 deaths during the year from small-pox, 89 from cerebro-spinal fever, 26 from plague, and 291 from influenza. In addition there were several outbreaks of minor infectious diseases such as chicken-pox and mumps.

Trypanosomiasis.—Cases of sleeping sickness continued to occur in the Mwanza district, 49 cases being diagnosed during 1923 as compared with 92 in 1922. The removal of the natives from the neighbourhood of the forest appears to have checked the disease in the Sultanates of Itilena, Sengerema, and Usmao, but in the Ntusu district, where the removal was not so thoroughly carried out, 22 were discovered. It seems certain that infection is acquired by the natives when visiting the tsetse-fly forest to cut poles, make rope, and for other purposes. The disease has shown no tendency to assume true epidemic proportions, and a violent outbreak need not be apprehended. The principal medical officer visited the area in September and October, and took with him a supply of Bayer "205," but it is too early as yet to give any definite opinion as to the results of the treatment with this drug, though the reports received to date are encouraging.

Venereal Disease.—Until a medical survey can be made, and continuous travelling undertaken by medical officers, the extent of venereal disease can only be estimated so far as the towns are concerned. Many of these are without doubt heavily infected, and in the Bukoba jail it was found that over 50 per cent. of the male prisoners and 25 per cent. of the females were syphilitic. Many natives present themselves for treatment, but cannot be persuaded to continue to attend until they are properly cured. In the country districts where estimates of prevalence have been based in the past on non-professional opinion, it is probable that the extent of venereal disease has been greatly exaggerated, and that laymen have frequently diagnosed as syphilitic symptoms which are certainly those of yaws, a disease which is known to be widespread throughout the Territory, while even leprosy is mistaken for it. It was found that on the medical examination at the Tabora hospital of 2000 or 3000 recruited by private employers during the year, less than 1 per cent. showed infection of venereal disease, while at Pagani hospital

only 36 cases were found amongst 2300 natives treated during the year. In Mwanza district, which had always been considered one of the centres of the disease, the medical officer reports that it is no more common than in most East African towns. Evidence supports the view that its prevalence in the country, apart from the townships, has been magnified, and that tribal custom is the main bulwark against its spread. The formation of relationships between the women of the tribe and strangers leads to abandonment of family ties, to the loss of the marriage dowry by the parents, and of potential man-power by the community, so that, while no great importance is attached to intercourse before marriage so long as this takes place with members of the tribe, public opinion discourages promiscuous relations with aliens. There are, of course, tribes whose moral laxity is more pronounced, and it is among these that the disease is spread by itinerant native leaders from the towns, who are generally carriers of infection. The dangers of the disease and of its sequelæ are constantly being brought to the notice of the natives, and in the Mwanza and Tabora districts pamphlets have been distributed.

The Treatment of Yaws.—A great step forward in the treatment of yaws was achieved by the adoption of bismuthotartrate of potassium and sodium as a substitute for higher arsenical preparations such as neo-salvarsan, &c., which were hitherto regarded as specifics for the disease, but were so expensive that their employment on a large scale was hardly possible. An account of the successful treatment of syphilis by bismuth at the Pasteur Institute in 1922 led the deputy principal medical officer, Dr. Shircore, to test its value in the treatment of yaws, when it was found that even advanced cases were cleared up and apparently cured within a few days. The cost of this drug, which in the first instance was prepared locally (and which still is in Kenya), is very small, working out approximately at a penny for ten doses, as against 6*s.* for a dose of neo-salvarsan; for a small sum it should, therefore, be possible to initiate a campaign against the disease, and, by means of travelling dispensaries working systematically over the country, largely to eliminate it.

Malaria is common throughout practically the whole Territory, and the mountainous areas in the north-east and south-west are the only districts where the danger of infection is not constantly present.

Medical Arrangements.

Medical examination of all recruited labour prior to engagement is insisted on and the health of the workers has been good. Residence on coast seems to have no ill-effect on the native from the highlands, but, on the other hand, the inhabitants of low-lying districts who proceed to high altitudes are extremely liable to pulmonary complaints which often prove fatal. For this reason requests from Arusha and Moshi to recruit labour from the Lake Victoria districts were refused after consultation with the medical authorities. The missions accomplish much valuable medical work among the natives, and include among their personnel four medical practitioners, several nurses, and a number of members who have received some training in medical and nursing work. Some of the large sisal estates have a dispensary and a small hospital ward for sick natives on their plantations, where medical attention is provided in minor ailments, the more serious cases being sent in to the nearest Government hospital. For the year ending March 31st, 1923, the expenditure on the medical department amounted to £90,000; for 1923–24 £104,000 were approved, while £116,000 have been granted for 1924–25, but even these increases do not permit of the extension which is desirable and necessary. State medical services are at present confined to the Government hospitals and dispensaries where natives come for attendance, while only in the more important centres is it possible to station European medical officers; and though the missions cover a wide field in the districts, much remains to be done. Medical salaries are on the whole more generous than those of other departmental officers, but it is difficult to obtain suitable candidates as medical officers, and the shortage was so severe that for part of the year there was no European doctor between Dar-es-Salaam and Tabora.

Climate.

The climate of Tanganyika Territory varies greatly according to the height above sea-level of the several districts. Roughly, four climatic zones can be distinguished, though even among these there are considerable local variations. (1) The warm and rather damp coast region with its adjoining hinterland. Here conditions are tropical though not unpleasant, except just before and during the rainy seasons, when the heat is trying and the atmosphere humid. The average yearly temperature is 78°. (2) The hot and moderately dry zone between the coast and the central plateau (300 feet to 2000 feet). This zone is characterised by low humidity of atmosphere, less rain, and a temperature rather lower but with greater daily and yearly variations. (3) The hot and dry zone of the central plateau between 2000 feet and 4000 feet in height. The climate of this zone differs, of course, greatly in parts, but its prevailing characteristics are low humidity, little rainfall (at Tabora an annual average of 32 inches), a fairly high mean temperature. The heat is dry and not so trying to the European as the moist and steamy warmth of the coast, while the nights are invariably cool. (4) The semi-temperate regions around the slopes of Kilimanjaro and Meru, of the Usambara highlands, the Ufipa plateau and the mountainous areas of the south-western area (5000 feet to 10,000 feet). Frosts occur at the higher altitudes and the nights are cold. These districts enjoy a bracing climate, and alone can be considered healthy for Europeans. There are two well-defined rainy seasons annually. Generally speaking, the long rains begin in February or March and last for two or three months, while the short rainy season extends from October to November, but the rainfall is low for a tropical country and droughts are not infrequent.

HEALTH CONDITIONS IN GOLD COAST COLONY.

THE report on the Blue-book for 1922–23, signed by Mr. W. H. Gilliland, Assistant Colonial Secretary, states that the population of the Gold Coast and its Dependencies, as taken in the Census of 1921, was 2,078,043. The number of Europeans resident in the colony during 1922–23 was 2998, composed of 979 officials, 1410 engaged in mercantile pursuits, 521 engaged in mining, and 88 missionaries. In the 17 registration areas there were recorded during 1922–23, 2988 births, 149 stillbirths, and 3283 deaths, Europeans being included in these figures. The number of births registered exceeded all previous records, but is still below the actual figure, as birth registration continues to be very unpopular amongst the uneducated classes. The figure for deaths is approximately accurate as no burial permits are granted without registration. Pulmonary and intestinal diseases are again the principal causes of death. An analysis of the death and invaliding statistics of the European population is appended:—

1922–23.	Number of residents.	Deaths.	Invalided.	Death-rate per 1000.	Invaliding-rate per 1000.
Officials ..	979	6	30	6·12	30·64
Merchants ..	1410	19	29	13·47	20·56
Mining companies	521	5	15	9·59	28·79
Missionaries.	88	1	2	11·36	22·72

The six deaths amongst European officials were due, one each, to the following causes: hyperpyrexia, compound comminuted fracture and septicæmia, blackwater fever, yellow fever, dysentery, and encephalitis. Of the 25 deaths amongst European non-officials, 5 were due to yellow fever, 6 to blackwater fever, and one each to malaria, unclassified fever, enteritis, syncope, pulmonary tuberculosis, intestinal obstruction, cut-throat, fractured skull, septicæmia, heart failure, meningitis, mitral disease, fatty degeneration of the heart, and cancer. Treatment was given during the year in 7506 cases of malaria, 908 of dysentery, 22 of yellow fever, 599 of pneumonia, 385 of tuberculosis, and 1 of plague. Fifteen cases of sleeping sickness were also treated. Of 48 cases of blackwater fever 6 proved fatal, and of 18 definite cases of yellow fever 13 resulted in death. The climate, though hot and damp, is cooler than that of most tropical countries situated in the same latitude. It is not in itself unhealthy, but an evil reputation has been earned for it in the past by the prevalence of mosquito-borne diseases, against which all possible precautions have constantly to be taken. The Gold Coast is peculiarly free from many of the discomforts associated with tropical countries. The efforts of the medical and sanitary authorities in promoting the treatment of disease and the knowledge of general hygiene continue to exercise a beneficial effect on the general health of Europeans. The rainfall varies with the configuration of the country, and is highest in the mining districts of Tarquah, Upper and Lower Wassau, &c., and also at Axim. The first rains, or rainy season proper, begin in March and end in July; the later rains are spread over the months of September and October. The rainy season is marked by a considerable fall in the temperature. The Harmattan season begins in December and ends in February. The rainfall in inches in 1922–23 was 26·53 in Accra, 52·32 in Aburi, 50·66 in Seccondee, 65·42 in Axim, 62·23 in Tarquah, 65·25 in Coomassie, and 38·48 in

Tamale. At Accra the mean shade temperature for the year was 80·0° F. At Coomassie and Seccondee it was 78·9° and 79·3° respectively. The mean daily range of temperature in Accra was 16·9°.

THE HEARSON CAPSULE.

THE connexion between a poultry-farmer in Surrey, a bacteriologist in his laboratory, and a club steward serving ice-cold drinks in the tropics, may sound remote enough to please the most fastidious student of detective fiction. The Hearson capsule, however, supplies this link: it is employed nowadays to regulate incubators, bacteriological or otherwise, and in a modified and extended form for regulating high and low temperatures. It is, therefore, of invaluable assistance both to the bacteriologist, although forming an almost insignificant part of his apparatus, and also to the club steward who wants to keep his drinks in a cool place where the beer will not freeze solid. The poultry-farmer also wants his incubators at a constant temperature, and 40 years ago the late Mr. Charles Hearson was approached by a friend who kept a farm in Surrey and who was making tentative experiments on the artificial incubation of eggs. He was finding it difficult to keep his primitive apparatus, consisting of a large box surrounded by a water-jacket, at a constant temperature. His difficulties appealed to Mr. Hearson, who shut himself up in a room at the top of a house in South London and worked until he had discovered the thermostatic capsule which bears his name. All this is told in the introduction to the latest catalogue of the well-known firm of Chas. Hearson and Co., Ltd. The Hearson capsule consists essentially of a narrow chamber formed by sealing together two flat pieces of metal. Into this chamber is introduced a small quantity of fluid, the boiling-point of which is near the temperature which it is desired to maintain. When this temperature is reached the fluid boils and the capsule expands moving a lever which cuts off the supply of heat. A large range of temperatures can be provided for by choosing suitable fluids, while for very high or low temperatures a different principle is involved. Such was the starting point for the manufacture of the modern incubator and the Hearson capsule can be employed for regulating the supply of heat by oil-lamps, gas, or electricity. It sounds very simple, but it is "the secret of the complétion of the capsule"—that is, the sealing-off of the metal chamber—"which has enabled the Hearson Company to defy all competition."

UNITED HOSPITALS WINTER SPORTS CLUB.

To the Editor of THE LANCET.

SIR,—I trust that you will assist me once again to bring this club to the notice of your readers. It was founded to obtain advantageous terms at winter sport resorts and to encourage these sports amongst past and present students of all recognised medical schools in the United Kingdom. This year the Lord Dawson Cup for Ski-ing will be competed for early in January at the Club Hotel at Griesalp, Bernese Oberland; but for those members who prefer the Engadine a second hotel at Sils-Maria (45 minutes' drive from the station at St. Moritz) has undetaken to assist our members in many ways. Full particulars can be obtained from the manager of the Grand Hotel, Griesalp, Bernese Oberland, and from the manager of the Hotel Waldhaus, Sils-Maria (Engadine). I am, Sir, yours faithfully,

J. DUNCAN LYLE, Hon. Sec.

Maidenhead, Nov. 14th, 1924.

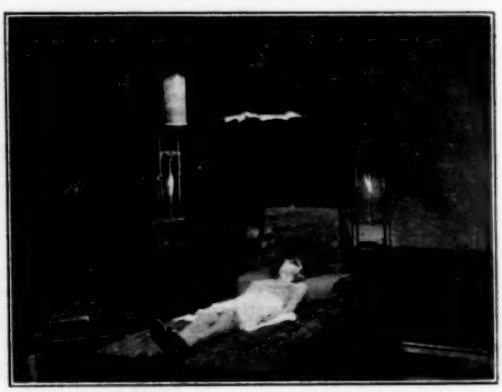
NATIONAL BABY WEEK COUNCIL.

AT a meeting of the Council held at Carnegie House on Nov. 12th Dr. T. Watts Eden spoke on the relation of antenatal care to maternity and child welfare. He suggested three main reasons why expectant mothers should receive supervision: (1) While the reaction and disturbance caused by pregnancy varied enormously in different cases, the margin of health was always a narrow one, and medical care was desirable. (2) Some of the most serious emergencies connected with child-bearing gave warning by premonitory symptoms. The classic example of eclampsia was nearly always preceded by albuminuria, which could be detected by skilled attention and the fits averted. (3) Difficulties likely to arise during the birth process, such as narrowing of the passage or faulty position of the child, could be discovered and dealt with satisfactorily before the birth process began. Antenatal work might influence the unborn infant through environment, using that word in a broad sense. Certain infectious diseases could be transmitted from the mother to the child, and some organic diseases might render the placenta incapable of carrying on its work, when the life of the child would come to an end. Nervous disturbance affected the chemical composition of the blood and the bodily secretions, and would influence the fluids supplied by the mother to the infant. Peace and quiet was one of the greatest needs of the expectant mother; the child of a nervous mother was subject to the influence of a nervous environment while still in the uterus.

Miss Hester Viney, speaking of the difficulty of antenatal work among village mothers, alluded to their complete ignorance of physiology. A woman who did not even know she had a pelvis would not be impressed by information concerning her pelvic measurements. A scheme by which a higher fee was charged for late booking with doctor or midwife had proved helpful in getting earlier into touch with patients. In rural districts antenatal work usually grew out of the welfare centre. Mr. E. B. Turner, F.R.C.S., said that propaganda was more difficult among fathers than among mothers. Men did not realise the strain their wives were subject to in child-bearing, and were neglectful from want of knowledge rather than want of heart. Health films could be made both attractive and educational; antenatal centres should be held for fathers as well as mothers, and they should be taught about diseases from which they might suffer and which might affect their wives. The medical curriculum now entailed attendance at welfare centres, so that young medical practitioners were better instructed in matters of maternity and child welfare than formerly. A ten minutes' film on the work of a welfare centre was shown after the meeting, giving a good idea of the routine activities of the centre. The action of the kinema unfortunately produced its curious atmosphere of intense rapidity, especially marked in the scenes of the doctor's consultation. This slightly modified the otherwise entirely useful effect of the pictures.

A NEW SUN RAY ARC LAMP.

THE Westminster Engineering Company has recently produced a new sun ray arc lamp which, it is claimed, gives a light of great intensity, rich in ultra-violet rays and also in luminous and heat rays. The lamp contains special large white-cored carbon electrodes which burn with a long flame with about 90 volts across the arc and they will last for seven to eight hours without attention. Both carbons are automatically adjusted so that the point of focus of the arc remains fixed. The lamp is made to work with either an alternating or a direct current, and in the former case a choking coil is included in the apparatus. An easily worked control board enables resistance to be introduced into the circuit if necessary, and the lamps are made for the ordinary circuits of 220/250 volts and 100/120 volts; the arc takes about 25 amperes, and two or more can be arranged in series. The arc can be hung from a roof-rail and appears to be particularly valuable for the application of the general arc light bath. According to the results of certain investigations the light from this arc is stated to contain the heat, visible and the longer ultra-violet rays, and is comparable to sunlight. Many institutions are now installing arc lamps, for the tendency in this country is to rely upon artificial sources for "sunlight," and the "Westminster-Eidinow" lamp is already deservedly popular. It is simple to work; burns steadily, producing a powerful long flame arc, and is comparatively economical in current. The mercury vapour lamp is being discarded in favour of it, and the use of electrodes other than carbon is said to produce light of a less range of usefulness from the therapeutic point of view. There are no reflectors and no spurting pieces of metal during burning, so that a small circle of patients can sit round in as close proximity as is desired. Several of the big London hospitals, and sanatoriums, tuberculosis dispensaries, infirmaries, and children's institutions in different parts of the country, have installed this lamp and report that therapeutic results are easy to obtain.



General light bath with "Westminster-Eidinow" lamps.